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Psychological Abstracts

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PSYCHOLOGICAL ABSTRACTS

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GENERAL

820. **Brightman, E. S. [Ed.] Proceedings of the Sixth International Congress of Philosophy.** New York: Longmans, 1927. Pp. lxxxvii + 716. $5.00. —Herein are reprinted documents relating to the organization of the Congress, including the list of members, the minutes of business meetings, and the various addresses made at the opening meeting. Papers read are centered about the topics Emergent Evolution; Time; Philosophy of Religion; Philosophy of Mind; the Sensa; the Doctrine of Subsistence; Judgments of Value and Existence; International Relations; Ethics; Aesthetics; Philosophy of Law; History of Civilization; Ancient, Mediæval, Modern and Contemporary Philosophy. Under these headings are gathered a hundred papers of varying interest to psychologists. Among those of more special concern are Wheeler, "Emergent evolution and the social"; Starbuck, "An empirical study of mysticism"; Hocking, "Mind and near-mind"; H. C. Brown, "Why the sensa?"; Schiller, "Fact and value"; the several papers by Ryan, Lévy-Bruhl, Ross, Calkins, Kozak and Adams, on "The basis of objective judgment in ethics"; Pepper, "Description of aesthetic experience"; Hartmann, "Ueber die Stellung der aesthetischen Werte im Reiche der Werte ueberhaupt"; Campbell, "Objective form and its rôle in aesthetics"; Howes, "The foundations of aesthetics"; Lapie, "L'éducation morale dans les écoles françaises"; Radhakrishnan, "The doctrine of Maya: some problems." The book closes with the addresses at the official dinner given the Congress, made by Dasgupta of Calcutta, Enriques of Rome, Kozlowski of Posen, Lévy-Bruhl of the Sorbonne, Roscoe Pound of Harvard, J. A. Smith of Oxford and Montague of Columbia.—*F. L. Wells* (Boston Psychopathic Hospital).

821. **Carr, H. W. The philosophy of Benedetto Croce; the problem of art and history.** New York: Macmillan, 1927. Pp. 223. $3.50.—*W. S. Hunter* (Clark).

822. **Cattell, J. McK. The origin and distribution of scientific men.** *Science*, 1927, **66**, 513–516.—The statistics of the leading scientists, as shown in the fourth edition of *American Men of Science*, are analyzed from a number of standpoints and compared with the data of the previous edition. There appears to be a tendency for the Central and Western States to produce an increasing proportion of scientists, as well as for scientists to locate in these states. There is a decrease in the number of men who have studied abroad. The proportion of scientific men who hold academic positions is also decreasing.—*G. J. Rich* (Institute for Juvenile Research).

823. **Flexner, S. Jacques Loeb and his period.** *Science*, 1927, **66**, 333–337.—The work of Loeb started with his appreciation of contemporary advances in botany, and the conviction that the physico-chemical forces acting in living matter are one and the same, both for plants and animals. Later these observations were extended into the field of psychology in the explanation of certain phenomena of animal behavior in accordance with the laws of scientific determinism. In a similar way, Loeb appreciated the meaning for physiology in the great developments in physics and chemistry, and turned his energies to the investigation of the physico-chemical relations of vital phenomena.—*G. J. Rich* (Institute for Juvenile Research).

824. **Kao, C. F.** ***Gestalt*** **psychology and behaviorism.** (*Chinese*) *Eastern Miscellany*, 1926, **23**, 69–85.—The attack of *Gestalt* theory upon behaviorism is centered around the rejection of analytic method and the problem of consciousness. The relation of consciousness and behaviorism can be comprehensively grasped by a discussion of motive, thinking and the uniformity of consciousness. The author desires that the study of behavior should be made an independent science. Three current theories of behavior are mentioned: (1) substantial vitalism, implying an entelechy as propounded by Driesch and McDougall, (2) emergent vitalism or *Gestalt* theory, emphasizing attributes or qualities of the whole, and (3) mechanism. The attitudes of behaviorists toward consciousness are recognized as three: (1) those who admit its existence, (2) those who though admitting its existence deny its legitimate rôle in the science of psychology, and (3) those who deny its existence.—*S. K. Chou* (Stanford).

825. **Miles, W. R. The high relief finger maze for human learning.** *J. Gen. Psychol.*, 1928, **1**, 3–14.—There is a description of four types of mazes: (1) enclosure, (2) flat diagram, (3) mental, and (4) high relief; but the article is chiefly concerned with a raised finger maze. Learning seems to be much more efficient in the finger maze than in the stylus maze. A detailed procedure is suggested. Two figures and a bibliography.—*H. Cason* (Rochester).

826. **Moore, J. S. Philosophy and the sciences.** *Science*, 1927, **66**, 257–258.—Just as the physical, biological and psychological sciences each deal with a set of phenomena which the others must necessarily ignore, philosophy and the sciences differ in their attitudes toward the world and each is interested in what the other must ignore. They are, therefore, inextricably interdependent and each has a contribution to make to the other.—*G. J. Rich* (Institute for Juvenile Research).

827. **Neumann, J. Der Theologe Johannes Müller als Philosoph.** (The theologian Johannes Müller as a philosopher.) *Arch. f. d. ges. Psychol.*, 1927, **59**, 75–88.—*D. McL. Purdy* (California).

828. **Piéron, H. Psychologie expérimentale.** (Experimental psychology.) Paris: Colin, 1927. Pp. 220. 9 fr.—Following a brief historical introduction in which attention is called to the many French contributions to the science, Piéron discusses the following problems: (1) processes of reaction and the forms of behavior, (2) the affective reaction and the orientation of conduct, (3) the perceptive reaction and the acquisition of experience, (4) the intellectual reaction and the elaboration of experience, (5) the levels of activity and the utilization of experience, and (6) mental types and levels. Although consciousness exists for the individual, it cannot afford the basis for a science. The words *green* and *sensation* do not have a necessarily subjective significance any more than does the word *cube*. There is only a science of behavior, of activity, of the total reactions of the individual envisaged in their organic relations. As contrasted with this, physiology studies partial and limited systems of reaction. Introspection consists in a conditioned verbal reaction; it has no essential subjective significance; it is no more related to the phenomena of consciousness than is a manual movement made on a Morse key by a properly instructed subject. Piéron canvasses the whole field of psychology and organizes it from the point of view above described.—*W. S. Hunter* (Clark).

829. **Russell, B. Philosophy.** New York: Norton, 1927. Pp. vi + 307.—A presentation of neutral monism with a discussion of the philosophies of behaviorism and psychology. The behavioristic philosophy cannot be accepted because even the data of physics are infected with subjectivity. The old world of a substantial matter has been outgrown in modern physics, which deals with mathematical formulas based upon sense data. Introspection reveals certain private aspects of experience which are inaccessible to other forms of observa-

tion. Russell emphasizes the fact that physics uses the methods of psychology, and he disagrees with the behaviorists who would have psychology use the (alleged) methods of physics.—*W. S. Hunter* (Clark).

830. **Schweizer, R. Der charaktervolle und der begriffliche Gegenstand. Ein Beitrag zur Gegenstandstheorie.** (The object as character and as concept. A contribution to *Gegenstandstheorie.*) *Arch. f. d. ges. Psychol.*, 1927, **59**, 89–162.—The things we perceive have two aspects: (1) as original sense-data (forms, colors, tones, etc.) and (2) as conceptual objects, links in the chain of causal connection. A particular experience, as of a red color, presents itself as a unity; the feeling of excitement, e.g., which the red arouses is phenomenally inseparable from the color. This experienced unity may be called the "character." On the other hand, when we say "Red and green are complementary colors" we have in mind the conceptual objects red and green, and these are essentially different from the characters. A color may produce a feeling either as an immediate and original effect, or secondarily, in consequence of the meaning which experience confers on that color. Colors, shapes, etc., of the first type are called "primary sensory elements," those of the second type "secondary sensory elements." The first part of the present study is devoted to "the primary sensory element and the characters of form and surface," the second part to "the secondary sensory element and the characters of language." The discussion is chiefly concerned with the aesthetics of word-sounds and of simple optical forms. Particular emphasis is laid upon the aesthetic importance of the primary sensory element.—*D. McL. Purdy* (California).

831. **Spearman, C. E. The origin of error.** *J. Gen. Psychol.*, 1928, **1**, 29–53.—The assumption is made that within the scope of the doctrine of noegenesis the only influence that is adequate to explain the origin of error is the law of retentivity. It is assumed further that "The primary source of error lies in two special manifestations of the principle of retentivity. The first is that some character is retained over from one item of cognition to another. The second is that there also occurs an analogous displacement of belief." The consequences of this assumption appear to Spearman to be very momentous.—*H. Cason* (Rochester).

832. **Titchener, E. B. Empirical and experimental psychology.** *J. Gen. Psychol.*, 1928, **1**, 176–177.—Historical definitions of empirical and experimental psychology, prompted by Carmichael's recent discussion of these terms.—*H. Cason* (Rochester).

833. **Wheeler, R. H. Persistent problems in systematic psychology. IV. Structural *versus* functional analysis.** *J. Gen. Psychol.*, 1928, **1**, 91–107.—Attention is directed to the value of structural analysis and its relation to functional analysis. Some of the configurationists' criticisms of structural analysis are irrelevant. "The emphasis of functional analysis to the neglect of structural analysis shows a prejudice as great and as dangerous as the prejudice shown by the psychologists whose work the configurationists have attacked."—*H. Cason* (Rochester).

[See also abstract 866.]

SENSATION AND PERCEPTION

834. **Bishop, H. G. A simple demonstration of movement by disks.** *J. Gen. Psychol.*, 1928, **1**, 177–178.—Description of a practical demonstration of the phi phenomenon to be used in the lecture room.—*H. Cason* (Rochester).

835. **Bixby, F. L. A phenomenological study of luster.** *J. Gen. Psychol.*, 1928, **1**, 136–174.—The paper describes a number of experiments on: naturally

lustrous objects, synthetic luster, the lability of the lustrous field, the basis of classification of lusters, and certain other miscellaneous problems. There were nine subjects, and their instructions were similar to the following: "You will be given a visual experience; I wish you to give a phenomenological description of that experience." It was found that "The phenomenon of luster is the same under all conditions of its appearance. Qualitatively, luster is an intermingling or 'sifting-together of light and dark'—'light and dark seen in the same place.' This paradoxical mode of appearance depends upon the extreme lability of luster. The texture of luster is a bulky-film. While in ordinary life luster is, by the untrained 0, always seen on objects, and is therefore connected with the perception of surface, we have been able to produce experimentally a pure or 'reduced' luster without surface which, once experienced, can also be found under non-experimental conditions. It seems probable that lustrous objects may be classified phenomenologically into one or more finely intergrading series. Further materials and observations are, however, necessary before such series can be established."—*H. Cason* (Rochester).

836. **Bonain, —. Contribution à la physiologie de l'oreille. Du rôle des arcades de Corti dans l'audition.** (A contribution to the physiology of the ear. Concerning the rôle played by the arches of Corti in hearing.) *Bull. Acad. méd.*, 1927, 3d series, **98**, 323–325.—Relying on the fact that the ear was able to distinguish the harmonics in a complex periodic wave of a musical sound, Helmholtz believed that the ear ought necessarily to contain a definite number of differentiated resonators, fitted each to vibrate at a given sound. The author asserts a parallelism between vision and audition, and states that it is necessary, before their access to articular resonators, that the complex waves and the groupings of varied waves be dissociated. The penetration of sound waves through various points of the barrier zone of the basilar spiral into the tunnel of Corti and their diffraction through the lateral network account for this dissociation of complex sound and the analysis of masses of sound which arrive simultaneously at the ear.—*Math. H. Piéron* (Sorbonne).

837. **Brown, R. G., & Hoisington, L. B. The dependence of hue on difference in tint.** *J. Gen. Psychol.*, 1928, **1**, 108–113.—The purpose of the experiment was to study the change in hue when the tint of the color and the grey of the screen were equal and when they were unequal. It is concluded that a film-experience darker or lighter than its surroundings is likely to produce an experience of hue.—*H. Cason* (Rochester).

838. **DeGowin, E. L., & Dimmick, F. L. The tactual perception of simple geometrical forms.** *J. Gen. Psychol.*, 1928, **1**, 114–122.—The purpose of the experiment was to obtain "descriptions of the spatial patterns of several touch perceptions whose stimuli have definite visual patterns and to determine whether, as in the case of vision, tied images play any part in these patterns." The forms used were a line, circle, equilateral triangle, and square. Reports were obtained from five untrained and two trained subjects. It was found that "Purely tactual perceptions do not naturally take on the meanings of form that correspond with our visual geometrical forms. When such tactual perceptions of form are built up, it is only by the addition of other elements, usually visual. In spite of their lack of resemblance to the visual forms of the stimuli the tactual patterns are stable and readily recognized. Tied images, similar to those in vision and audition, play a large part under the right conditions in filling out the tactual patterns from incomplete stimuli."—*H. Cason* (Rochester).

839. **Gault, R. H. Fingers instead of ears.** *Welfare Mag.*, 1927, **18**, 1131–1138.—Experiments upon the tactile perception of vibrations show that frequencies up to 2700 v.d. can be felt and rates differing by 9 or 10% can be distinguished from each other. It is possible to teach deaf subjects to pick up speech

by means of a teletactor (an electrically actuated vibrating diaphragm). Perception by this means may be used to supplement lip reading. A deaf mute or semi-mute may, by feeling his own voice, be taught the effect of the vocal organs or be aided in the control of his speech.—*G. J. Rich* (Institute for Juvenile Research).

840. **Geldard, F. A. The measurement of retinal fatigue to achromatic stimulation. I.** *J. Gen. Psychol.*, 1928, **1**, 123–135.—With the aid of a suitable apparatus, measurements were made of retinal fatigue and the course of the fatigue process. One area of the retina was fatigued, and a measure of the reduction in brightness was obtained by stimulating an adjacent area with a comparison light. Three subjects and three intensities of fatiguing light were used. The decrease in seen brightness was found to be dependent upon the time of stimulation and the intensity of the fatiguing light.—*H. Cason* (Rochester).

841. **Gellhorn, E. Über den Wettstreit im Nachbild. VI. Über intracorticale Erregungsvorgänge in der Sehrinde des Menschen.** (On rivalry in the after-image. VI. On intracortical excitation in the visual cortex of man.) *Pflüg. Arch. f. die ges. Physiol.*, 1927, **218**, 54–82.—When a cross formed of two different colors with a central gray fixation area is binocularly observed for 20 seconds, the resulting after-image exhibits a rivalry between the two colors. The rivalry is increased if the difference in the original colors is increased either as to intensity or as to quality. Of the two colors the one gains ascendency in the rivalry which more strongly contrasts with the background. If the cross is divided into vertical and horizontal segments and recombined stereoscopically, the after-image shows similar rivalry. Retinal points stimulated need not be homologous. Relative intensity, size, and contrast with the background determine the rivalry quotient. If the after-image, resulting from such stereoscopic presentation, is observed as a projection on a gray surface but with one eye closed, the complete cross-shaped image is observed and rivalry occurs. This is called the i-phenomenon. The component corresponding to the closed eye is at a disadvantage in the rivalry if original stimulation has been equal for the two eyes, but this disadvantage can be more than overcome by increasing the intensity of the stimulus presented to the eye which is later to be closed.—*L. T. Spencer* (Yale).

842. **Gescher, J. Zur physikalisch-optischen Deutung der entoptischen Sichtbarkeit der Blutbewegung im Auge.** (Physico-optical explanation of the entoptic visibility of the circulation of the blood in the eye.) *Arch. f. Augenhk.*, 1927, **98**, 375–384.—The author refers to his previous paper on the same subject, and in the present communication gives an explanation of the "entoptic visibility of the blood movement" in terms of chromatic aberration in the lens system of the eye. The explanation is supported by microphotographic demonstration. Four plates.—*S. M. Newhall* (Yale).

843. **Hulin, W. S. An experimental study of apparent tactual movement.** *J. Exper. Psychol.*, 1927, **10**, 293–320.—The object of these experiments with a modified Benussi kinohapt was to determine the possibility of compulsory conditions for apparent movement on the skin of the forearm. Seven subjects gave 13,500 judgments on the effect of two tactual stimuli, each with a duration of 150 σ and a weight of 4 gm., presented at temporal intervals ranging from simultaneity to 300 σ and spatial intervals from 5 to 150 mm. Of the judgments 30% represented some kind of apparent movement, which was divided into 4 classes, "full," "end" (a single or dual part-movement), "bow" (a jumping from one point of contact to another), and "inner" (a new type shown by two subjects, "one or two unstable contacts which flutter within their separate areas of stimulation"); the 4 classes taken together were called "optimal." The optimal and "full movement" experiences show a decided peak of frequency for

a temporal interval of $-75\,\sigma$ (a temporal overlap). "The other types of movement vary indefinitely. Spatially, a uniform frequency of full movements is shown at the several separations. Korte's direct variation of space and time was not substantiated for the distribution of full movement." The perceptual complex is shown to involve "at least 4 persistent though variable factors: the peripheral factors of pressure irradiation and perseveration, and the subjective (associative) factors of visual imagery and kinæsthesis."—*F. A. Pattie* (Harvard).

844. **Janz, K. Über den Vergleich von Helligkeitsgefällen.** (The comparison of gradients of brightness.) *Psychol. Forsch.*, 1927, **9**, 354–388.—The difference limens of grey values are studied from the viewpoint of configurational psychology. The method of supraliminal differences is compared with other methods. It is found that the difference limens depend upon the magnitude of the variations made rather than upon the sense distance existing between the constant and the variable. G. E. Müller's suggestion of "degrees of coherence" determined by a "collective attention" does not find support in this research.—*W. S. Hulin* (Princeton).

845. **Johannsen, D. E. Recovery from visual fatigue.** *J. Gen. Psychol.*, 1928, **1**, 178–181.—Four subjects were used in an experiment which is a corollary of the work of Geldard (see Abstract 840). Recovery from visual fatigue depends not only on the intensity of the fatiguing light, but also on the time allowed for recovery. The process of recovery is identical with dark adaptation.—*H. Cason* (Rochester).

846. **Liebmann, S. Über das Verhalten farbiger Formen bei Helligkeitsgleichheit von Figur und Grund.** (The nature of colored forms with equal brightness of figure and ground.) *Psychol. Forsch.*, 1927, **9**, 300–353.—When the figure and ground of a pattern are of different colors but of the same brightness they tend to blur into each other and lose their distinctness. The combination of blue-green blurs the most, blue-red the least and the "contrast colors" have an intermediate effect. These color combinations induce different effects upon optical illusions such as the Münsterberg, Poggendorf, Zöllner and Müller-Lyer figures. For example, with the M–L figure the blurring of the feather-heads diminishes their illusion while the blurring of the arrow-heads enhances their illusion. The blurring is explained as a process of irradiation in the retina. It is seen that irradiation cannot constitute the whole explanation for optical illusions.—*W. S. Hulin* (Princeton).

847. **Ladd-Franklin, C. The physicist and the facts of color.** *Science*, 1927, **66**, 589–591.—Physicists commonly disregard such elementary facts about sensations of color as the unitariness of white, blue, yellow, red, and green and the obvious complexity of all other colors which are blends of these five.—*G. J. Rich* (Institute for Juvenile Research).

848. **Malamud, W. The rôle played by the cutaneous senses in spatial perceptions.** *J. Nerv. & Ment. Dis.*, 1927, **66**, 585–594.—The study of the function of the special senses in health and disease is of double interest to the student of mental diseases. First, it is of interest for him to know what relation exists between mental disorders and disturbances in the special senses. Secondly, it is equally interesting that the problem has enlisted the attention of the philosopher and the student of biology. The discussion of the problem in this paper centers upon three topics: space, perception, and sensation. Space is a "form which sensations in general must acquire before they are rendered perceptible." Perception is "the act of becoming consciously aware of a content hitherto out of consciousness." Sensations are regarded as qualities only. The experiment, an attempt to determine the stimulus limens in the cutaneous senses, was carried out by applying to the volar surface of the arm two hard rubber points, followed by two sharp metallic points and *vice versa*. Another series with geometrical forms

gave no positive results. From the four thresholds obtained, the author summarizes as follows: "Two spatial contents objectively equal but limited by stimuli of different qualities are perceived as unequal: such contents between pain bearing stimuli are perceived as smaller than between tactile: these qualities must be cutaneous in type, in other words cutaneous sensations, for other qualities which are of geometrical value do not seem to exert such an influence."—*P. A. Pooler* (Boston Psychopathic Hospital).

849. **Quensel, F. Ein Fall von rechtsseitiger Hemianopsie mit Alexie und zentral bedingtem monokulärem Doppeltsehen.** (A case of rightsided hemianopsia with alexia and centrally conditioned monocular double vision.) *Monatsschr. f. Psychiat. u. Neur.*, 1927, **65** (Flechsig-Festschrift), 173.—Oblique lesion through the occiput from the anterior upper left to the posterior lower right led to incomplete right-sided hemianopsia with the field of vision unimpaired in the upper quadrant and also with intact macular and perimacular vision. In addition there was later a diffuse circular perimacular scotoma in the left lower quadrant. Central acuteness of vision, $\frac{1}{20}$–$\frac{1}{30}$; color sensitivity and perception of form, in general, normal; only moderate alexia, the predominant disturbance being in the perception of the form of words and letters. At the same time copying and writing from dictation as well as spontaneous writing were entirely intact; the speech showed a slight amnesic aphasia, but only in the beginning. In the affected portion of the field of vision very little function remained. Disturbances of perception of space in bisection experiment were most typical. There was impairment of absolute localization with displacement more toward the left than toward the right, and slightly defective fusion in stereoscopic vision. The most noteworthy phenomenon was monocular double vision, that is, double vision for each eye alone. This was found only in the marginal zone of the remaining macular and perimacular field of vision. The fixated object is seen once clearly in the correct position; close by it is always found a second less distinct image which is displaced in the missing right field of vision some 25° to 30°, with a definite shifting in height which changes somewhat for the separate meridians. No certain explanation can be given for this phenomenon, which has remained unaltered for several years. The double images are entirely independent of eye movements. Possibly it is a question of separate perception, that is, of inability to fuse the impressions from both hemispheres. From the point of view of localization the case ranks with other well known observations of a related kind; similar cases have apparently not yet been reported in the literature.—*F. Quensel* (Leipzig).

850. **Roelofs, C. O., & Zeeman, W. P. C. Optische Augenbewegung und Richtungsempfindung.** (Eye movement and sensation of direction.) *Arch. f. Augenhk.*, 1927, **98**, 238–270.—The reflexive influence of retinal stimulation and of position and movement of the head upon the innervation of the extrinsic eye muscles is studied indirectly through changes in the line of regard accompanying controlled variation of the above factors. The subject assumes a passive attitude as an attempt to eliminate voluntary interference with the eye movements. The reported displacement of an experimentally induced visual after-image serves as the indicator of position or drift of the eye. The retinal stimulation, even when foveal, is followed by displacements which are consistent in direction for a given subject. The displacements also afford information concerning the rôle of the neck and head movements in eye muscle innervation. Theoretical bearings of these eye movements and their innervation as affecting the visual perception of direction and incidentally as conditioning the "fluctuation of attention" are discussed. Eighteen references.—*S. M. Newhall* (Yale).

851. **Royer, B. F. The relation of venereal diseases to vision defects.** *J. Soc. Hygiene*, 1927, **13**, 385–393.—The large amount of blindness due to infec-

tions from the birth canal, of which 60% is gonorrheal, is entirely preventable by proper prophylactic methods. Syphilitic blindness is likewise preventable in large part by early and long-continued anti-luetic treatment.—*G. J. Rich* (Institute for Juvenile Research).

852. **Sullivan, A. H. The cutaneous perception of softness and hardness.** *J. Exper. Psychol.*, 1927, **10**, 447–462.—Temperature was found to play an important part in perceptions of softness and hardness. "Warmth itself has the pattern, texture, and lack of boundary which we find in all perceptions of softness; it is diffuse, filmy, and indefinite in boundary. Cold itself has the pattern, texture and boundary which we find in perceptions of hardness; it is compact, uniform, and definitely bounded." There are different degrees of softness and hardness, and it is therefore difficult to give the compulsory conditions in all cases. "The optimal hardness depends upon the following conditions: (1) pressure of the same intensity throughout the area stimulated; (2) a well-defined boundary line; (3) coldness. The optimal softness is conditioned by: (1) pressure of varying intensities throughout the area stimulated; (2) an indefinite boundary line; (3) warmth." Neither intensity of pressure nor movement is a necessary condition. "Extensity, in the sense of being areal rather than punctiform, appears to be compulsory."—*F. A. Pattie* (Harvard).

853. **Titchener, E. B. The glassy substance.**. *J. Gen. Psychol.*, 1928, **1**, 175.—A description of Titchener's experiences with the influence of practice on the glassy sensation, seeing it in a complex landscape, and in the sky, and comparing it with the memory-color of real glass.—*H. Cason* (Rochester).

854. **Tschermak, A. Über die funktionelle Bedeutung der Sechszahl der Augenmuskeln.** (On the functional significance of six as the number of eye muscles.) *Monatsschr. f. Psychiat. u. Neur.*, 1927, **65**, 397–422.—The eye muscles, especially the four vertical muscles, are not to be looked upon as individual motor organs, but as exclusively co-operative in activity. The extensive validity of Listing's law, demonstrated by means of special investigations in the author's institute, shows that always a heteronomous vertical muscle of the upper and of the lower level (R.s. + O.i.; R.i. + O.s.) act together in a constant relationship (2.4204) corresponding to the muscular strength in the sense of raising and lowering the eyes without rolling. At the same time, however, as the occurrence of independent rolling movements shows. e.g., in changes of the lines of sight according to depth and in lowering the head to the side as a corrective movement in cyclophoria, a co-operation is possible in the sense of rolling without free vertical components. For this purpose the vertical muscles of the same level (R.s. + O.s.; R.i. + O.i.) act together optionally in a similarly constant relationship (1.5358). The functional significance of six as the number of eye muscles, therefore, does not lie in the necessity of making possible the movement according to Listing's law by means of the first form of co-operation—for that 4 muscles, indeed even 3, would be sufficient—but in order to make possible an independent change in orientation by means of the second form of co-operation likewise in primary position. The latter form has the special task of making possible a symmetrical presentation of both eyes in spite of certain disproportions of the motor apparatus on both sides. By this means there first comes into existence the evaluation of sensory correspondence for binocular-stereoscopic vision. —*A. Tschermak* (Prague).

855. **Zigler, M. J., & Barrett, R. A further contribution to the tactual perception of form.** *J. Exper. Psychol.*, 1927, **10**, 184–192.—An extension of a previous study (*Amer. J. Psychol.*, 1926). Figures (square, hexagon, diamond, equilateral and right-angle triangles) were applied with a pressure of 500 gm. on the palm, ball of thumb, and volar surface of forearm. Three forms of figures, cut from hard rubber, were used: solid, outlined, and pointed (with

rounded points at the corners only and without outline). The clearest perceptions are given by outlined, solid, and pointed figures in the order named. The perceived form of pointed figures is in many cases supplemented by tactual tied images, in other cases by visual imagery. The most adequate perceptions are furnished by the thumb, palm, and forearm in the order given; forms with acute angles are correctly perceived more often than those with right or obtuse angles. When the perception has an observable temporal course, three stages, which may overlap or be arrested before completion, occur: (1) a stage of shapeless pressure or pressure-blur, (2) a stage in which one or two salient features of the form acquire definiteness and clearness, (3) the stage in which outline is clearly and completely given.—*F. A. Pattie* (Harvard).

[See also abstracts 830, 889, 910, 917, 920, 921, 926, 992, 1007, 1008.]

FEELING AND EMOTION

856. **Bridges, J. W. Emotional instability of college students.** *J. Abn. & Soc. Psychol.*, 1927, **22**, 227–234.—The Woodworth questionnaire for emotional instability was given to one hundred and sixty-eight students of arts and medicine. As measured by this test, the women students are more unstable that the men, and the arts students more unstable than the medical students. On the whole, students are more unstable than the average of the general population. There is no significant or unequivocal correlation between instability, emotionality, or idiosyncrasy as measured by the Woodworth, Pressey, or Kent-Rosanoff tests and academic standing.—*C. H. Johnson* (Boston Psychopathic Hospital).

857. **Marcus, H. Die Paradoxien des Gefühls.** (The paradoxes of the feelings.) *Zsch. f. angew. Psychol.*, 1927, **29**, 197–228.—Feelings are the accompaniments of transition periods or periods of change. Hence they are very fleeting, because as soon as the change has occurred and equilibrium has been established, the feelings subside. The acquisition of the new, whatever its character, creates pleasant feelings; the loss of the old, (i.e., what one already possesses) creates unpleasant feelings. The mere static possession of anything is accompanied by a state of indifference. Out of these characteristics of feeling grows the struggle for the increase of one's possessions. Youth differs from old age in that for the former there is constant change and acquisition of what is new, accompanied by exuberance arising from the pleasant feelings. For those of middle age there is a period of indifference (they have seen everything), and for the old the feelings would be those which accompany loss. The author presents an age curve with the point of maximum change at about 20 years. These peculiarities of feelings will explain many phenomena of individual and social life.—*A. T. Poffenberger* (Columbia).

858. **Marston, W. M. Motor consciousness as a basis for emotion.** *J. Abn. & Soc. Psychol.*, 1927, **22**, 140–150.—Consciousness is objectively described as psychonic energy, necessarily generated at every synapse in the central nervous system upon passage of impulses from neuron to neuron. The connective, or junctional tissue at the synapses capable of giving rise to psychonic energy, is termed, at any individual synapse, a psychon. There are two types of cell structure and two types of general synaptic arrangement, that at the sensory psychons being sensation, the motor psychons motation. There has been much confusion between the statements that emotion is sensation and that the awareness of a reaction occurring is emotion. Physiologists, in disproving the sensory-content statement of James' theory, conclude that emotion consists of a distinctive pattern of neurons in the central nervous system, excited to activity by initial response to the stimulus. Application of the physiologists' conclusion to James'

original formulation of his theory can be made with perfect harmony if motation be accepted as a basic unit of consciousness on equal terms with sensation. Emotions might be defined quite simply as composed of designated groups of motations, characteristically combined. Pleasantness might be defined as alliance of simple motations, and unpleasantness as conflict of simple motations.—*C. H. Johnson* (Boston Psychopathic Hospital).

[See also abstracts 1002, 1020, 1028, 1082.]

ATTENTION, MEMORY AND THOUGHT

859. **Bartlett, F. C. An experiment upon repeated reproduction.** *J. Gen. Psychol.*, 1928, **1**, 54–63.—A discussion of changes which occur in the successive reproductions of stories. The experimental data are omitted.—*H. Cason* (Rochester).

860. **Bird, C. The influence of the press upon the accuracy of report.** *J. Abn. & Soc. Psychol.*, 1927, **22**, 123–129.—The particular circumstance was the unwitting distortion by a university newspaper of certain data which had been presented in a lecture given as part of a course in general psychology. The results presented show that groups of college students who have not been subjected to the errors of a newspaper report are consistently more accurate in their answers to specific questions which deal with the facts distorted than are other groups of college students, who have, perhaps unwittingly, formed contradictory habits through the medium of the newspaper. Furthermore, they yield corroboration of other studies upon the findings (1) that reports which involve number statements are less accurate than those which are non-quantitative in character, and (2) that the differences in report between sexes are negligible. They also show to what extent a press article can displace information disseminated by the lecture method.—*C. H. Johnson* (Boston Psychopathic Hospital).

861. **Chiu, C. The meaning of meaning.** *Chinese J. Psychol.*, 1927, **4**, 12.—The author recapitulates the explanations of Titchener, Warren, Pillsbury, Angell, Watson, Langfeld, and Bolton, and gives his own view as an elaboration of Watson's account. Meaning is an outcome of conditioned response and is the sum total of the activities which a given stimulus can call forth. Meaning is thus a function of the potential activities of the individual and of the relations of the stimulus to other stimuli. Meaning may be divided into three classes, relating respectively to muscular, laryngeal, and visceral activities. This behavioristic explanation of meaning does not assume that it is an indispensable term in science.—*E. Shen* (China Institute).

862. **Hahn, R. Mathematische (Rechnen) Begabung und Persönlichkeit.** (Mathematical (calculating) talent and personality.) *Monatsschr. f. Psychiat. u. Neur.*, 1927, **64**, 229–251.—(From the psychiatric and neurological clinic of the University of Frankfurt a. M., Prof. Kleist, Director.) The author draws his conclusions from a case of epilepsy in an intelligent eight year old girl who was mathematically gifted, and from a similar case of a twelve year old epileptic boy. Either we must transfer the mathematical-intellectual processes, together with the indispensable visual processes, to a part of the visual area—according to Kleist, the area near the angular gyrus—or we must assume that the foundations of general intelligence are associated with other parts of the brain. With the mathematician these foundations have a particularly close connection with certain parts of the optic region, so that the optic ganglia of this functional partial system can be damaged very slightly or very severely. The development of such a system, which is probably inherited, is promoted by the disposition of the children, which is in many respects morbid (retiring disposition, pedantry).—*W. Wirth* (Leipzig).

863. **Hollingworth, H. L. General laws of redintegration.** *J. Gen. Psychol.*, 1928, **1**, 79–90.—Several laws of redintegration are described and illustrated by the behavior of a neurotic soldier. The following is a partial summary of these laws. "Consequents may follow partial details of their former antecedents. The completeness of a redintegrated response varies with the completeness of its stimulus. Some of the details of an antecedent context have special instigative potency. A detail's momentary potency is a complex resultant of all its effective determinants. Some features of a co-response are more easily redintegrated than others. Simultaneous response tendencies combine or synthesize in various ways, producing resultant patterns of compatible features. Both subjective and objective events participate in redintegrative sequences. The efficacy of a past context is not due to its reproduction nor its unconscious persistence; some present detail functions as its surrogate. A mind is the sum total of redintegrative activities exhibited in or by a given system." The conditioned response is regarded as only one of the modes of redintegrative sequence.—*H. Cason* (Rochester).

864. **Ilyinski, P. [On concentration.]** *Voprosy izucheniya i vospitaniya lichnosti* (Problems in the study and education of personality), 1927, No. 1–2, 19–32.—The author has devised his own variant of the Bekhterev reflexological method. Using this method, he proves that concentration should be regarded, not as a separate brain process, but as a differentiating activity of the perceptive part of the associative-reflex arc.—*A. L. Shnirman* (Leningrad).

865. **Luetgebrune, —. Parteifunktionär und Zeuge. Ein Beitrag zur Lehre von der Zeugnisfähigkeit.** (Party-leader and witness. On the reliability of testimony.) *Arch. f. d. ges. Psychol.*, 1927, **59**, 163–172.—The credibility of a witness is not established by the fact of the oath nor by his good faith. In illustration, a recent case from the German law-courts is cited in detail. The leader of a partisan organization brought suit against a political rival, charging that the latter had made libellous statements against him in a public speech. Evidence showed that the complaint was groundless, although the good faith of the plaintiff and his witnesses was unquestioned. A genuine misunderstanding of the phrasing of the speech appears to have occurred, due to an emotional tension accompanied by a corresponding suggestibility towards certain ideas. The incident is illustrative of the fact that one's perceptions are shaped by one's frame of mind—a matter of considerable importance for the problem of the reliability of witnesses.—*D. McL. Purdy* (California).

866. **Maquart, F.-X. De l'action de l'intellect-agent.** (The activity of the intellectual agent.) *Rev. de. Phil.*, 1927, **34**, 380–416; 489–518.—The hierarchy of faculties is repartitioned—with a preservation of the Thomistic style of architecture.—*W. S. Hulin* (Princeton).

867. **Marbe, K. Bemerkungen zum vorhergehenden Aufsatz Luetgebrunes.** (Notes on the foregoing article by Luetgebrune.) *Arch. f. d. ges. Psychol.*, 1927, **59**, 173–178.—Laboratory experiments are reported which show the influence of "mental set" on the perception of spoken words. Words are frequently misunderstood in such a way as to make them conform to the context in which they appear. These experiments were suggested by Luetgebrune's case (see Abstract 865). Not only can juristic practice apply psychology to its problems with advantage, but it can also suggest fruitful lines of psychological research.—*D. McL. Purdy* (California).

868. **Pauli, R. Beiträge zur Psychologie des Rechnens.** (Studies in the psychology of calculation.) *Arch. f. d. ges. Psychol.*, 1927, **59**, 179–202.—In this research an approach is made to the understanding of the mental processes involved in arithmetical computation. Experiments were conducted on 11 adults, using the method of continuous addition with pairs of single-digit numbers.

The comparative difficulty of the tasks involved in adding various pairs of such numbers could be inferred from the relative frequency of errors. A high speed of performance being required, the proportion of errors is great enough so that significant conclusions can be drawn. The difficulty of adding a pair increases with the magnitude of its sum; the task is markedly easier when the components and the sum are even than when they are odd. The results agree with those found by other investigators in the case of children. Bibliography of 12 titles.—*D. McL. Purdy* (California).

869. **Sawdon, E. W. Should children learn poems in wholes or in parts?** *Forum Educ.*, 1927, **3**, 182–197.—From preliminary experiments with various types of poetry and on boy-groups equated for mental ability, the whole method is rated as superior with poetry that is easy, that has a good swing and that has a binding thread running through it; but the superiority is lacking for more difficult material. With the length of time varied experiments with longer poems showed that with sufficient time learning by the whole method is generally more effective. In short time limits the part method excels; at an intermediate point the two methods are equally valuable; but beyond this point whole learning is better both for accuracy of immediate recall and of later reproduction.—*K. M. Cowdery* (Stanford).

870. **Sterzinger, O. Über die sogenannte Verteilung der Aufmerksamkeit.** (Concerning the so-called division of attention.) *Zsch. f. angew. psychol.*, 1927, **29**, 177–196.—A critical examination of the technique used in the practical testing of the ability to distribute the attention. The author uses as an illustration the simultaneous reading of a story and solving of multiplication problems. One must be able to determine whether he is really dealing with simultaneous attention or with a series of rapid shifts of attention. Proper measurements require that the acts be tested separately and in combination, whereupon the effects of practice must be guarded against. Practice must be taken into account also when attempts are made to measure the influence of degree of maturity of the subjects upon their attention control. The author criticizes the attention tests of Moede-Pierkowski, Schierock-Fuss, and Huth as measures of occupational aptitude.—*A. T. Poffenberger* (Columbia).

871. **Wang, C. Two association experiments.** *Chinese J. Psychol.*, 1927, **4**, 8.—To test the relative frequency of association by similarity and association by contiguity, an experiment in free association was performed on 22 high school boys. Each gave a series of 50 words after being given an initial stimulus word. A dichotomy of the response words shows more than 83% to be associations by contiguity. A second experiment, performed upon 8 normal school girls, requiring a response to each of 50 separate stimulus words, shows a wide variation among the subjects according to the stimulus words. Nouns, pronouns, and adjectives tend to yield more associations by similarity.—*E. Shen* (China Institute).

872. **Whitely, P. L. The dependence of learning and recall upon prior intellectual activities.** *J. Exper. Psychol.*, 1927, **10**, 489–508.—Particular apperceptive systems were aroused in subjects prior to learning and prior to recall, and these subjects' abilities in these functions were compared with that of a control group. The subjects were required to read resumés of certain fields of knowledge and to answer questions on them (sometimes they had only to answer questions without previous reading). The lists of words memorized and recalled were sometimes related to this field of knowledge, sometimes not. Learning is unaffected by the arousal of such an apperceptive system. There is, however, some slight but statistically unreliable indication that arousal of a system related to the material learned is detrimental. Recall was tested 24 or 48 hours after learning. The arousal of a system immediately prior to recall, prior to learning, or

immediately following learning is detrimental to recall, both in the percentage of words retained and in number of errors. The effect is greater if the system is closely related to the material learned.—*F. A. Pattie* (Harvard).

873. **Wild, E. H. Influences of conation on cognition.** *Brit. J. Psychol.*, 1927, **18**, 147–167.—Some of the work done by previous investigators is reviewed. The evidence is that conation influences both muscular and cognitive output. Wild concludes (1) that conation produces more intense cognition of fundamentals or relations or of both, so making eductive processes more accurate and increasing reproducibility of the items cognized; and (2) that it causes previously cognized items to be reproduced more rapidly and numerously.—*H. Banister* (Cambridge, England).

[See also abstract 1078.]

NERVOUS SYSTEM

874. **Beck, G. M. The cerebellar terminations of the spino-cerebellar fibres in the lower lumbar and sacral segments of the cat.** *Brain*, 1927, **50**, 60–98.—A brief summary of the literature of the subject with tabulation of known facts precedes the report of this investigation. The methods and materials of the experiments are described, and photomicrographs accompany the descriptions of the sections. Two diagrammatic sketches are included to show the author's conception of the end stations of the ventral and dorsal spino-cerebellar tracts. The latter tract terminates in the vermis of the same side; the former goes mainly, if not entirely, to the vermis of the opposite side. The ventral spino-cerebellar tract fans out into the cerebellar vermis at a lower level than the dorsal spino-cerebellar tract, which extends as a large-sized bundle at least as low as the fifth lumbar segment. There is present a constant small group of fibers situated between the dorsal and ventral spino-cerebellar tracts, which is, however, more closely allied to the dorsal tract. It is designated the "fasciculus spino-cerebellaris intermedius." The presence of degenerated dorsal and ventral spino-cerebellar tracts on the homolateral as well as on the contralateral side, after a lesion of the spino-cerebellar tracts of but one side, is due to an injury to the contralateral side against the bony canal, and perhaps in small measure to a disturbance of the blood supply. There is no appreciable difference in the caliber of the fibres of the spino-cerebellar tracts.—*E. N. Brush* (Boston Psychopathic Hospital).

875. **Gerard, R. W. The activity of nerve.** *Science*, 1927, **66**, 495–499.—The production of heat in active nerve has been demonstrated by means of the thermopile and amplification. At each impulse there is an outburst of heat lasting a few thousandths of a second, which is followed by a feeble but prolonged heat liberation. Although the rate of heat liberation in the initial phase is 5,000 times as great as at the start of the delayed phase, only 11% of the heat is produced during the first phase, the remainder appearing in the delayed one, most at first and slowly fading out in about 10 minutes. The heat per impulse falls as successive impulses follow one another more and more closely. In the absence of oxygen both initial and delayed heats fall gradually to practical extinction in about three hours. When a nerve is active, there is increased consumption of oxygen and increase in the respiratory quotient. The consumption of oxygen appears not to accompany the nerve impulse, but to follow in the next 10–15 minutes. A chemical schema for the chemical reactions of nerve activity is suggested.—*G. J. Rich* (Institute for Juvenile Research).

876. **Levin, A. Fatigue, retention of action current and recovery, in crustacean nerve.** *J. Physiol.*, 1927, **63**, 113–129.—The non-medullated limb-nerves

of *Maia squinado* and *Cancer* (spider crab and edible crab) were used. These nerves are readily fatigued by tetanic stimulation. They recover if left at rest. As fatigue increases, the negativity of the nerve increases. This negativity, which is in addition to the action current, and continues after the cessation of the action current, is designated "retention of action current." The greater the amount of "retention" present, the less is the electric response on further stimulation. Recovery goes hand in hand with the wearing off of the "retention." The fatigue produced in the nerves is a combination of local fatigue (at the point of stimulation) and conduction fatigue. It is much greater near the stimulating electrodes, but the whole nerve is also fatigued as the result of conducted impulses. It is suggested that the phenomenon of local fatigue is an indication of the nerve's fatigability. There is complete parallelism in the distributions of fatigue and of "retention" along the nerve.—*H. Banister* (Cambridge, England).

877. **Schröder, P. Grosshirnlokalisazion und Psychiatrie.** (Cerebral localization and psychiatry.) *Monatsschr. f. Psychiat. u. Neur.*, 1927, **65** (Flechsig-Festschr.), 298–303.—(From the psychiatric and neurological clinic of the University of Leipzig.) The director of the Leipzig clinic here admits his denial of the localization of mental diseases in definite brain areas as advocated particularly by C. and O. Vogt in the theory of the association of individual elementary functions with their 200 cortical fields, the destruction of which is accompanied by definite symptoms of disease. In reality we know nothing whatever of the localization of function in the cortical gray matter. The well-known results of the stimulation and extirpation of sensory and motor areas as well as of subcortical parts can be derived entirely from the effect produced on the projection fibers. Even Wernicke, whom the localists gladly accept as supporting their views, in the generalization of his scheme of aphasia attributed mental disturbances only to the involvement of the association areas of the brain entirely in parallel without special cortical localization. His brilliant clinical analysis of mental disorders can generally, however, be completely detached from questions of localization. The diffuse psychic disturbances which run parallel with certain brain diseases only, however, with very extensive areas of destruction and indeed probably in the projection fibers rather than the cortex, are to be distinguished sharply from the generally non-localized symptoms of particular mental diseases.—*W. Wirth* (Leipzig).

878. **Woronzow, D. S. Beobachtungen über das Refraktärstadium des Nerven. I. Das Refraktärstadium des cocainizierten Nerven.** (Observations on the refractory phase of nerve. I. The refractory phase of the cocainized nerve.) *Pflüg. Arch. f. d. ges. Physiol.*, 1927, **218**, 148–168.—After cocainization nerve responds to increasing induction shocks more and more weakly until very strong shocks produce no reaction. Decreasing shocks are reacted to normally, although the threshold becomes higher than for increases. If an increasing shock occurs during the first half of the absolute refractory phase, then an inhibition is set up so that eventually no effect occurs. A decreasing induction shock during the first half of the absolute refractory phase strengthens the effect; during the second half inhibition occurs. Results are more pronounced the greater the narcosis. The conclusion is advanced that the refractory phase is really composed of two phases: the first half involves catelectrotonic changes and can be inhibited by anelectrotonic changes; the second half involves the reverse. The second phase apparently represents the restitution process.—*L. T. Spencer* (Yale).

[See also abstracts 862, 888, 889, 890, 981, 1046.]

MOTOR PHENOMENA AND ACTION

879. **Bekhterev, V. M., & Polonski, J. G. [The principle of the saltatory development of associative reflex action.]** *Voprosy izucheniya i vospitaniya lichnosti* (Problems in the study and education of personality), 1926, No. 1, 69–87.—A total differentiation of the receptor part of an association reflex, likewise a differentiation of directive inhibition, does not arise gradually, but comes into existence suddenly, at a bound, either after a "latent" differentiation phase, or "overtly" in the very first experiment and in the first differentiation trial. Not only the receptor part of the association reflex, but also its response, or motor part, is subject to the same processes; and the development of these processes in the motor part is not at all connected with the development of the same processes in the receptor part of the reflex. The receptor part, and also the response or motor part, of the common or simple reflex is subject to the same conditions of generalization and differentiation, of stimulation and inhibition, as the association reflex. But its course of development is not at all connected with the course of development of the same processes in the receptor and in the response-motor part of the association reflex. An oft-repeated concurrence of a non-reflexogenic stimulus with a strong reflexogenic one may prove insufficient for an immediate formation of the association reflex, but it is quite sufficient to pile up a charge of internal excitation which then suddenly, in the form of a saltation (an explosion), expresses itself in a fully formed association reflex, whose stimulus limen can be measured by counting the number of associations given.—*A. L. Shnirman* (Leningrad).

880. **Collman, R. D., & McRae, C. R. An attempt to measure the strength of instincts.** *Forum Educ.*, 1927, **3**, 171–181.—Use of Moore's technique of association method with words appealing to instinctive tendencies supplemented by psycho-galvanic apparatus resulted in measures of strength of instincts showing a coefficient of contingency of .43 ± .05 with the results from a rating scale. The coefficient is characterized as low but probably higher than would be obtained by the use of any other objective method so far evolved.—*K. M. Cowdery* (Stanford).

881. **Dodge, R. Elementary conditions of human variability.** New York: Columbia Univ. Press, 1927. Pp. 107. $1.50. (Publication No. 10, Ernest Kempton Adams Fund for Physical Research.)—This is a careful and extensive study of the variation of successive responses to repeated stimuli applied at different levels of the cerebro-spinal system of a human subject. The author has reported much of this work elsewhere, and he obliges the reader by giving references to his earlier publications. One of the important conditions of human variability studied by Dodge is the refractory phase. The duration of cardiac cycles is partly determined by the length of the refractory phase of the heart muscle; but it is not known to what extent changes in pulse rate depend upon refractory phase and the intensity of stimulation. The regular recurrence of a refractory phase is quite predictable in the knee-jerk and the lid-reflex. In both cases there is a rough proportionality between the amplitudes of reactions to paired stimuli, 0.5 sec. apart; the conditions depressing the first of the paired reflexes depress the second also. There is a difference after 0.5 sec. between the refractoriness of the knee-jerk and the lid-reflex: the refractory phase of the knee-jerk is almost over in 0.5 sec., while that of the lid-reflex is in its earlier and more complete stage. Certain facts suggest that refractory phase may be a post-stimulation phenomenon of all neural tissues. "It limits the frequency of responses when the repetition of stimuli is more rapid than a certain critical interval. It probably operates to modify the pattern of response to repeated stimuli in humans as well as in animals. It facilitates the consolidation of iso-

lated conscious events into series. One may reasonably expect that those factors will eventually dominate the consciousness of recurrent events which have, or come to have, relatively low refractory phase." There are differences in the decrement of reflex activity by habituation at different levels of the cerebrospinal system. In the patellar reflex, for example, repeated stimulation at frequent intervals for twenty months caused no permanent change in amplitude, and there was a gradual increase in reflex latency. In the lid-reflex, repeated stimulation causes a gradual decrement in amplitude in man and also in the guinea pig. The main permanent change in amplitude of the lid-reflex involves the reaction to the first of the paired stimuli; the amplitude of the reaction to the second stimulus is more nearly constant. The eye and speech reactions show a shortened latency consequent to repetition; but some of this effect is due to a conditioned reaction. Three rhythmical changes appear: (1) All neuro-muscular reactions tend to be most effective in the morning and less effective late in the evening; (2) there is a gradually increasing fatigue of specific reaction systems (lid- and eye-movements, cardiac cycle) as the day progresses; (3) "the general daily rhythm is further complicated by the periodic ingestion of food and by special periods of depression in the late morning and the late afternoon." Evidence is obtained for the existence of two opposed conditions of variability of response: (1) a depression of irritability (deadening), and (2) an increase of irritability (liveliness). The sudden transition from reinforcement to inhibition consequent to the same objective stimulation remains one of the perplexing problems of human variability. There are 10 tables and 23 figures.—*H. Cason* (Rochester).

882. **Downey, J. E. Types of dextrality among North American Indians.** *J. Exper. Psychol.*, 1927, **19**, 478–488.—A report, "to be considered merely tentative," of data collected from 256 Indians. Manual habits shown in writing, throwing, eating, using a broom, batting, clasping the hands (the thumb-habit), and spading were recorded. The spade foot was recorded and in some cases the fixating eye. The Indians are more strongly dextral in type than the whites. It is believed possible to "illustrate the possibility of a connection between finger-print patterns and dextrality" (finger-print data are given for 50 Indians).—*F. A. Pattie* (Harvard).

883. **Downs, W. G., Jr. Studies in the causes of dental anomalies.** *Genetics*, 1927, **12**, 570–580.—Studying 647 case histories of individuals from a hospital for the insane and a school for the feeble-minded, the author reports that close to 50% of all of the cases of endocrine dyscrasias had dental anomalies of one type or another, while cases normal as to endocrine status showed only about 17% of dental anomalies. The type of anomaly seemed to bear no general relation to the type of endocrine disturbance. In 47 cases in which a fairly complete family record was obtained, 5 showed no dental anomaly in other members of the family, while 42 did show positive histories. A series of feeding and injection experiments with puppies in which pituitary extracts were administered failed to influence to any extent the teeth of these animals.—*B. S. Burks* (Stanford).

884. **Dusser de Barenne, J. G., & Burger, G. C. E. Graphische Methoden zur Bestimmung des Gesamtgaswechsels des Menschen im Arbeitsversuch.** (Graphic methods for determining the total gaseous metabolism of man in work investigations.) *Pflüg. Arch. f. d. ges. Physiol.*, 1927, **218**, 222–238.—Three methods are described which function well in studies of active work. Not only are graphic records produced during the actual work, but interpretation of the records is claimed to be possible in one-quarter the time required by the more usual gaseous analysis method. The accuracy of the registration is equal or superior to other methods.—*L. T. Spencer* (Yale).

885. **Ernst, E. Untersuchungen über Muskelcontraktion. VI. Volumverminderung und Aktionsstrom.** (Investigations on muscle contraction. VI. Volume reduction and action current.) *Pflüg. Arch. f. die ges. Physiol.*, 1927, **218**, 137–147.—Action current and volume reduction during muscle contraction closely parallel each other. Mechanical work done, action current, and volume reduction are to be explained in a unitary way as conditioned by ionic reconstructions produced by the stimulus.—*L. T. Spencer* (Yale).

886. **Furusawa, K., Hill, A. V., & Parkinson, J. L. The dynamics of "sprint" running.** *Proc. Roy. Soc.* (*B*), 1927, **102**, 29–42.—It is shown that the speed of an animal, such as man, is limited by the inertial stresses to which his structures are subjected during movement. A too rapid movement, which would injure the structures, is prevented by the "viscosity" of the muscles; it is not produced by reflex activity in the nervous system. External resistances are practically of no account on the flat. The energy requirement varies more rapidly than the cube of the speed. The high physiological cost of rapid movement is explained. A runner at full speed propels himself with a constant force and is retarded by a resistance proportional to his speed.—*H. Banister* (Cambridge, England).

887. **Furusawa, K., Hill, A. V., & Parkinson, J. L. The energy used in "sprint" running.** *Proc. Roy. Soc.* (*B*), 1927, **102**, 43–50.—The mechanical efficiency of work done in running compared with amount of oxygen used in recovery was found to be about 38%. Fatigue begins to appear after about 70 yards, and after a further 130 yards the speed falls on the average (ten runners) by 12%. The fatigue is due to high rate of expenditure of energy: one subject developed 8½ H.P. when travelling at his maximum speed.—*H. Banister* (Cambridge, England).

888. **Grindley, G. C. The neural basis of purposive activity.** *Brit. J. Psychol.*, 1927, **18**, 168–188.—The hypothesis is based on the assumption that activity of a powerful group of neurons underlies any tendency towards an end. When the end is attained the activity ceases. The reasons for this quiescence differ in different behavior cycles. Grindley shows how variations in behavior when pursuing an end, positive and negative learning, and the importance of the successful as compared with the most frequent response, can all be explained.—*H. Banister* (Cambridge, England).

889. **Groebbels, F. Die Lage- und Bewegungsreflexe der Vögel. VI. Degenerationsbefunde im Zentralnervensystem der Taube nach Entfernung des Labyrinths und seiner Teile.** (The position and movement reflexes of birds. VI. Evidences of degeneration in the central nervous system of the pigeon after removal of the labyrinth and its parts.) *Pflüg. Arch. f. d. ges. Physiol.*, 1927, **218**, 89–97.—Degeneration effects are described which emphasize the functional cooperation of the vestibule and cerebellum.—*L. T. Spencer* (Yale).

890. **Groebbels, F. Die Lage- und Bewegungsreflexe der Vögel. VII. Die Lage- und Bewegungsreflexe der Haustaube nach Läsionen des Rückenmarks und der Oblongata.** (The position and movement reflexes of birds. VII. The position and movement reflexes of the domestic pigeon after lesion of the cord and medulla.) *Pflüg. Arch. f. d. ges. Physiol.*, 1927, **218**, 198–208.—The nervous control of neck and tail reflexes is identified by experimental section of various tracts of the spinal system.—*L. T. Spencer* (Yale).

891. **Humphrey, G. The effect of sequences of indifferent stimuli on a reaction of the conditioned response type.** *J. Abn. & Soc. Psychol.*, 1927, **22**, 194–212.—A learned response to a musical tone may disappear when the tone is presented as part of a musical phrase or an arpeggio. The response may disappear also after the playing of a series of disconnected notes, so that the individually checking action of the component tones is probably a factor contributory

to the effect described above. Certain cases have been recorded where a series of notes forming a musical unity function, in their weakening effect on a habitual response, differently from a similar series not forming a musical unity. If the tone occurs at certain places in certain melodies, there may be no checking effect. With one subject, the inclusion within a melody of a rhythmical series of tones did not destroy the degenerating effect of this series on the response. These conclusions do not preclude the possibility that the musical phrase or arpeggio, in producing the checking effect on the trained response, functions as a unity. They define the problem; they do not solve it.—*C. H. Johnson* (Boston Psychopathic Hospital).

892. **Husband, R. W. Human learning on a four-section, elevated, finger maze.** *J. Gen. Psychol.*, 1928, **1**, 15–28.—The finger maze (Miles—see Abstract 825) used in this experiment was of multiple-T construction, in four sections, and every choice was to the right or left with reference to the subject. Each of the 80 subjects was blindfolded, and records were kept of trials, errors, and time. 26.8 trials are necessary to learn four sections of the maze, as compared with 16.7 trials for single section. The verbal or counting method of learning is the most efficient. The elevated finger maze is easier to learn than Warden's stylus maze of the same construction, the average numbers of trials being 16.7 and 69.4 respectively.—*H. Cason* (Rochester).

893. **Kupalov, P. S., & Gantt, W. H. The relationship between the strength of the conditioned stimulus and the size of the resulting conditioned reflex.** *Brain*, 1927, **50**, 44–52.—Separate employment of the components of a complex conditioned stimulus is a reliable method of determining their relative strengths. In a complex of two stimuli, the main effect is produced by the stronger stimulus, and this may even inhibit the weaker component. A strong light (400 candle-power lamp) and cold (0° C.) are more potent stimuli than a very faint sound. The size of the conditioned reflex reaction depends upon the strength of the stimulus, that is, upon the energy transmitted to the cerebral cortex. The comparative effects of the different stimuli depend upon the intensities of these stimuli, regardless of the analyzer to which they belong. The authors are led by their observations to the view that the various regions of the cerebral cortex function, in the main, identically, and such differences as may exist from region to region are of a quantitative order only.—*E. N. Brush* (Boston Psychopathic Hospital).

894. **Macaggi, D. Ancora sul preteso significato ormonico sessuale della reazione di Manoilow (note sperimentali).** (More on the supposed sexual hormonic significance of the Manoilov test (experimental note).) *Arch. di antrop.*, 1927, **47**, 202–214.—With regard to the medico-legal application of the Manoilov test, the author found it positive only in 70% of the female blood cases and in 57.6% of the male blood cases, and, hence, a large enough number of negative results to invalidate this blood test for the determination of sex. His experiments on the blood of animals led to the same results; that is, they proved that the discoloration of Manoilov's mixture is not bound up with the presence of male or female hormones, but with the larger or smaller amount of haemoglobin which acts in the mixture itself as an inhibitory agent, inhibiting its spontaneous discoloration.—*R. Schwarz* (George Washington University).

895. **Poppelreuter, A. Analyse der Erziehung zur Exaktheitsarbeit nach experimental-psychologischer Methode.** (Analysis of training for accurate work according to the methods of experimental psychology.) *Zsch. f. angew. psychol.*, 1927, **29**, 1–40.—A statistical study of Poppelreuter's law of practice, which concerns the interrelation between changes in speed and accuracy of a motor process in the course of practice. In the customary practice methods speed is acquired at the expense of accuracy. The proper procedure would be

to retard the speed of movement in the early stages of training to the point where 100% accuracy is attained, and then gradually to increase the speed to a degree consistent with maximum accuracy. Two tasks were used, a tracing task with 100 subjects and a checking task with 40 subjects. Distribution curves of speed and accuracy show that the subjects making the most errors fall in the high speed end of the distribution, while the very slow subjects, though tending toward the accurate end of the distribution, nevertheless scatter more widely. It is concluded that whereas errors are primarily due to high speed of action, slow speed is due to other factors as well as to accuracy. There then follows an analysis of the various relations between speed and accuracy, and the demonstration of the records of individual subjects.—*A. T. Poffenberger* (Columbia).

896. **Ohm, J. Zur Messung der im Augenzittern der Bergleute enthaltenen Kraft.** (Measurement of the strength of miners' nystagmus.) *Arch. f. Augenhk.*, 1927, **98**, 385–388.—A graphic record of ocular nystagmus is secured with a weighted lever system connected to the conjunctiva of the left eye. The amplitude and frequency of the eye-movements are not substantially affected when opposed by a 30-gram weight, and they persist with 50 grams and more. Two records are presented. The writer refers to Fischer's critical values of only 8 and 8.5 grams for the power of the rectus muscles in maintaining voluntary fixation against resistance applied with corneal cup.—*S. M. Newhall* (Yale).

897. **Richter, O. Die Verbesserung der Leistung am Tremometer vom 14 bis 16 Lebensjahr.** (The improvement of performance from age 14 to 16 on the steadiness test.) *Zsch. f. angew. psychol.*, 1927, **29**, 121–130.—A steadiness test, consisting of a series of 3 rings 8, 7, and 6 mm. inside diameter to be put upon a curved wand 3 mm. in diameter, was used upon a group of 158 subjects. 1 year and 2 months later the test was repeated on 49 of them, and again 1 year and 9 months later on 79 of them. (Only 39 of this last group had also been tested the previous year.) At one time the wand would be fastened in a support and at another it would be held in one hand while the rings were placed on it by the other. Tables are presented showing relationship between errors with different sized rings with different methods of holding wand and with different degrees of maturity of the subjects. For the medium sized ring the correlation was .55 for the scores 2 years and 11 months apart. There was a rather uniform improvement in score with age, with some tendency toward a general leveling up of scores. This improvement is considered the result of increasing maturity rather than of such factors as occupation, etc.—*A. T. Poffenberger* (Columbia).

898. **Samojloff, A., & Kisseleff, M. Die Verkürzungs- und Verlängerungsreaktion des Knieextensors der decerebrierten Katze.** (The shortening and lengthening reaction of the knee extensor of the decerebrate cat.) *Pflüg. Arch. f. d. ges. Physiol.*, 1927, **218**, 268–284.—From the rigid quadriceps of the decerebrate cat an oscillatory action current can be derived. Stretching the muscle increases the intensity of the current. No evidence of a decrease in current or a softening of the muscle was ever observed. This suggests that in the Phillipson reflex the reciprocal movement of both extensors occurs without reciprocal innervation. To explain the fact that the extensor, stretched by an external force, does not return fully to its original position when released, the assumption is offered that passive shortening exerts an inhibitory influence on the extensor. It is suggested that in addition to the receptors in the muscle which produce the myotatic reflexes other receptors are present, whose stimulation by passive shortening leads to inhibition. The passively shortened muscle is not in a position, because of the myotatic reflex, to lengthen; while the passively lengthened muscle is not in a position to contract because of the inhibition produced by the removal of the load.—*L. T. Spencer* (Yale).

899. **Shnirman, A. L. [The present-day problems of the reflexological basic experiment in their application to man.]** *Voprosy izucheniya i vospitaniya lichnosti* (Problems in the study and education of personality), 1926, No. 1, 5–15.—In attempting to apply a biological analysis to the complicated expressions of the human personality, one must be extremely careful to avoid unfounded generalization or analogical conclusions. The reflexological basic experiment consists of the training of the associative-motor reflex to any selected indifferent stimulus, through its union with the reflexogenic basic stimulus by means of an electrical stimulation of the skin. This experiment has two aims: (1) the determination of the general laws manifested in this process; (2) the study of the individual peculiarities of each subject. In realizing the second aim, great caution is needed in evaluating the significance of the various factors which have to do with the formation of the associative reflex, in connection with the peculiarities of the subject. In order to approach this problem rightly one must take into account, not only the association reflex itself, but also its relation to the action of the entire central nervous system and to the other processes occurring therein, especially the processes which have the character of dominants.—*A. L. Shnirman* (Leningrad).

[See also abstracts 864, 878, 934, 960, 971, 1042, 1046, 1049, 1050, 1054, 1055, 1058.]

PLANT AND ANIMAL BEHAVIOR

900. **Bretnall, G. H. Earthworms and spectral colors.** *Science*, 1927, **66**, 427.—Earthworms tend to move away from blue light into red light.—*G. J. Rich* (Institute for Juvenile Research).

901. **Briscoe, G. Animal experimentation and knowledge.** *Lancet*, 1927, **213**, 1055–1057.—A statement of the status of anti-vivisection legislation and agitation in England. A defense of animal experimentation in medicine.—*W. T. Heron* (Minnesota).

902. **Castle, W. A. The life history of *Planaria velata*.** *Biol. Bull.*, 1927, **53**, 139–144.—It is shown that the life history of the common flatworm may be either an entirely asexual one or, under certain conditions, the worms may become sexually mature, copulate and lay eggs. The influence of food and temperature upon the life history of the worm is traced. Experiments show that asexual worms raised at room temperature show indications of approaching sexuality when the temperature is decreased to 8°–10° C.—*W. T. Heron* (Minnesota).

903. **Chappuis, P. A. Die Tierwelt der unterirdischen Gewässer.** (The fauna of subterranean waters.) (Bd. III of Thienemann's *Die Binnengewässer.*) Stuttgart: E. Schweizerbart'sche Verlagsbuchhandlung, 1927. Pp. 175.—The third part, particularly, may prove of interest to comparative psychologists by reason of the ecological and behavior material contained. Bibliography of 194 titles; 70 figures.—*R. R. Willoughby* (Clark).

904. **Cornetz, —. Une vieille expérience avec les fourmis.** (An old experiment with ants.) *Feuille d. natur.*, **47**, No. 34, 177–182.—An observation was made on lines of black ants of northern Africa, *Tapinoma erraticum nigerricum*, a species without vision. If the passage of these individuals is watched through a magnifying glass, it is seen that each one goes exactly along the trail where the preceding individual has gone, as if they were following an odorous line. Destroy the trail, and the ants will not pass any longer—at least for a certain length of time. At the end of this time (several minutes) there will always be found a certain ant which will take up the trail again, and the others will soon

follow. How is the track found again? This trail is formed again at night as well as in the day, and, the ants being blind, sight cannot come into play. The author believes that it is the fact of being able to replace the body in space in a certain manner, that is to say, the attitude in space of the median plane of the body coincides with the aforesaid direction, a fact which permits the ants to regain their trail. It is by constantly compensating for deviation through reference to a "vectorial stimulus," which the author calls a perception-force, that the ants are able to keep their initial direction.—*Math. H. Piéron* (Sorbonne).

905. **Custer, C. P., & Hicks, C. H. Nesting habits of some Anthidiine bees.** *Biol. Bull.*, 1927, **52**, 258–277.—The authors give a detailed description of the nesting habits of two species of bees, *Anthidium porterae* Ckll., which is a solitary bee, and *Dianthidium sayi* Ckll., which is a social bee in the sense that members of this species nest in close association with one another. The females of the former species appropriate the tunnels of other bees and wasps for their nests. In this article a "blow-by-blow" account is given of the encounter between a female bee and a wasp whose tunnel the bee finally succeeded in capturing. The bees of this species use down in the construction of their nest, while members of the second named species use resin as their material. It is not known whether or not *Dianthidium sayi* digs its own tunnel. This bee returns many times to her nest after it has been plugged. These returns suggest "that a bee retains the memory of her nest for at least a week after it has been completely plugged up and that her visits are made to it to insure its security from enemies." Bibliography of ten titles.—*W. T. Heron* (Minnesota).

906. **Folger, H. T. The relation between the responses by *Amoeba* to mechanical shock and to sudden illumination.** *Biol. Bull.*, 1927, **53**, 405–412.—Experiments show that "amoeba responds to both mechanical shock and to sudden illumination by a cessation of movement, which does not take place immediately on stimulation, but after a considerable reaction-time." There is a positive relationship between the intensity of the stimulus and length of reaction time, also between intensity of stimulus and length of the period of inactivity. After being stimulated by light or mechanical shock a period of time must elapse before the animal will again respond to either stimulus.—*W. T. Heron* (Minnesota).

907. **Gerould, J. H. Studies in the general physiology and genetics of butterflies.** *Quar. Rev. Biol.*, 1927, **2**, 58–78.—The writer points out the "personality" which each live butterfly possesses and describes his observations of *Vanessa antiopa* and *Colias philodice*. He considers longevity, stereotropism, gregariousness and posture at night, geotropism, phototropism, posture in sunlight, feeding, mating and egg laying. His study includes the action of light on the color of chrysalids, light and wing coloration, seasonal changes in coloration, physiology of melanization and of simple color patterns, pigments in the blood and their origin, and hereditary control of carotinoid pigment. A list of literature is included.—*H. S. Oberly* (Pennsylvania).

908. **Grünbaum, A. A. Über das Verhalten der Spinne (*Epeira diadema*ta) besonders gegenüber vibratorischen Reizen.** (The reactions of the spider *Epeira diademata* to vibrating stimuli.) *Psychol. Forsch.*, 1927, **9**, 275–299.—The spider here studied rests upon its web in such a way that its abdomen just touches the threads of the web and receives any jar or vibration sent along the threads. The spider usually settles in the center of its web. The feet rest upon different radial threads. Orientation to an incoming vibration involves a combined stimulation of a leg and the abdomen. A disturbance causes the animal to rotate until a front foot rests upon the thread directly disturbed. For orientation it is also necessary that the foot stimulated be upon a true radial fibre. If it rests upon a cross fibre the animal remains quiet. The spider makes a different

response to direct vibratory stimulation than it does to direct contact stimulation. The vibratory stimulus used is a thread pulsating at 48 vs. Touch generally causes flight; vibration generally causes the spider to drop and hang suspended. The spider does not react to vibrations upon its hind legs. Vibrations more rapid than 48 vs. arouse less and less reaction. Vibratory stimulation seems to be the dominating force in the spider's environment.—*W. S. Hulin* (Princeton).

909. **Hadley, C. V. D. Transfer experiments with guinea pigs.** *Brit. J. Psychol.*, 1927, **18**, 189–224.—The guinea pigs were first trained to discriminate between bays differently illuminated by light shining through ground-glass squares A and B of different sizes. They exhibited many individual differences in behavior when learning, but in general went through three stages: (1) an emotional phase, when many tendencies directed their behavior; (2) a phase of directed effort, when one tendency (food-seeking) was dominant; and (3) a phase when the correct response was perfected. When the guinea pigs had acquired the ability to discriminate between the stimuli, conditions were changed in two ways. In the first "transfer" one square (A) was replaced by another square (C) which was of such a size that A:B::B:C (approximately), so that the relative sizes of the squares and the relative illuminations in the bays was apparently constant. The animals made this transfer easily. In the second transfer the sizes of the squares A and B remained unchanged, but the illuminations in the two bays were equalized by dimming the light behind the larger screen, so that discrimination could be made only on the score of size. This transfer was made, but not so readily as the first. It appears that, during training, both brightness and size relational factors were operative, but that brightness was dominant. Yet relative size alone could, when necessary, become of functional significance.—*H. Banister* (Cambridge, England).

910. **Meservey, A. B., & Chaffee, E. L. Electrical response of the retina in different types of cold-blooded animals.** *J. Opt. Soc. Amer.*, 1927, **15**, 311–330.—In extension of the work of Chaffee, Bovie and Hampson on the excised retinae of frogs, the authors have measured with a string galvanometer the differences in potential which arise between the retina and the optic nerve following stimulation of the retina by light. The eyes of frogs, alligators, turtles, horned toads and chameleons were tested. Previous results with frogs were confirmed; essentially similar response curves were found for all kinds of eyes tested. In general, the difference in potential rises to a sharp maximum just following stimulation ("on" effect) and rises again to a maximum just following cessation of the stimulus ("off" effect). In some cases the "on" effect or the "off" effect consisted of two maxima instead of a single one. The authors were unable to decide whether the double character of these responses is due to the double structural (rod and cone) character of the retinae or not. They conclude, however, that this hypothesis is consistent with their results provided the possibility of some gradation between rod and cone responses be admitted.—*D. B. Judd* (Bureau of Standards)..

911. **Rabaud, Et. Les rassemblements de mâles d'Halictes et le phénomène social chez les insectes.** (The assemblages of the males of *Halictus* and the social phenomenon in insects.) *Bull. biol. Fr. et Belg.*, 1927, **61**, 163–185.—The males of *Halictus* (Hymenoptera), when night comes, alight on certain plants to the exclusion of other similar ones, although the latter may be adjacent and subject to the same influences of orientation, humidity, etc. This localization is derived from a factor independent of cosmic excitants. After varied experiments, the author declares that the phenomenon is a matter of memory, a return to a resting place determined by the registering of sensorial landmarks. The convergence towards the same point of a great number of individuals ought not to be considered simply as a gregarious procedure. These assemblages exhibit one

manifestation of a genuine social phenomenon. Having been accomplished the first time by reciprocal influence, the phenomenon continues under the influence of sensorial memory. It is this inter-attraction of individuals which determines the life in common of animal communities; there is an assemblage, but there is no mutual aid, for each works for himself.—*Math. H. Piéron* (Sorbonne).

912. **Rochon-Durigneaud, —, & Roule, L. Observations sur le comportement visuel et sur la structure de l'oeil chez *Blennius basiliscus*.** (Observations on visual behavior and eye structure in *Blennius basiliscus*.) *Bull. mus.*, 1927, No. **2**, 139–145.—This species, which lives chiefly in the southern Mediterranean, has a visual behavior different from that of other kinds of blennies and has a greater keenness of vision. The head has an unusual suppleness of articulation which permits the fish to orient its vision. The eye is hypermetropic, and the image projected on the retina must be small because of the very small distance which separates the dioptric apparatus from the retinal screen (2.5 mm., in place of 18 mm. in man). This tiny image is analyzed at the level of the fovea by a group of central cones, the elements of which are sensibly of the same size as those in man, but of which the number is smaller. Moreover, the individual conduction of the central cones, the principal element in human visual acuity, does not appear to occur in this fish.—*Math. H. Piéron* (Sorbonne).

913. **Wheeler, W. W. The physiognomy of insects.** *Quar. Rev. Biol.*, 1927, **2**, 1–36.—The writer discusses human types of physiognomy; "asthenic" and "pycnic" as named by Kretschmer; and types named by de Giovanni, Beneke, Bean, Stockard, Sigaud, Chaillon, and MacAuliffe. He states that there are similar types in animal life, giving examples, and discusses the correlation which he has observed in insects, considering chiefly ants. The main points which he is interested in establishing are: "1. The form of the head and face is very largely determined by the size and shape of the flexor muscles of the mandibles and in turn the functional or adaptive peculiarities of these organs are closely correlated with the character of their flexor muscles. 2. In certain species the development of the antennal muscles seems to be correlated with the convexity of the front, or forehead. 3. The antennae are also responsible for the development of certain adaptive structures in the configuration of the head, such as the scrobes. 4. The eyes are of little importance in determining the shape of the head in the workers and females of most ants, but these organs, when large, as in male ants and especially in certain other insects with haustellate mouthparts have considerable physiognomic value. 5. Certain head-forms are very largely determined by direct adaptation to the cylindrical cavities in the hard plant tissues or soil inhabited by insects."—*H. S. Oberly* (Pennsylvania).

[See also abstracts 889, 890.]

EVOLUTION AND HEREDITY

914. **Atkinson, M. C. A study of infants of feebleminded delinquent females.** *Proc. Amer. Asso. Stud. Feeblemind.*, 1927, **32**, 110–128.—Kuhlmann-Binet I.Q.'s and Gesell ratings were obtained for the infants of 25 borderline and feeble-minded, delinquent mothers. In only two cases was the intelligence level of the child below that of the mother and in ten cases it was above the mother's level.—*M. A. Merrill* (Stanford).

915. **Carr-Saunders, A. M. Eugenics.** New York: Holt, 1926. Pp. 256. $1.00.—A manual in the Home University Library series setting forth in compact form the status of modern knowledge regarding the mechanisms and significance of inheritance. The chapters on *Inheritance in Man, Environment and Inheritance*, and *The Distribution of Inherited Qualities*, particularly, contain material

of interest to the student of mental heredity; notable among this is a summary of the present position of the multiple-factor hypothesis of the inheritance of intelligence. A short general bibliography is appended.—*R. R. Willoughby* (Clark).

916. **Darwin, L. Nature and nurture in Shakespeare's plays and elsewhere.** *Eug. Rev.*, 1927, **19**, 181–191.—In his presidential address before the Eugenics Society, Darwin gives numerous quotations which indicate that both nurture and physical and mental heredity were understood by Shakespeare in a modern sense. A discussion is also presented of Rousseau's lack of appreciation of inborn differences, and an amusing chain of events is related of one of Rousseau's disciples who carried the ideas of his master to ludicrous extremes in his search for a wife.—*B. S. Burks* (Stanford).

917. **Davenport, R. C. A family history of choroidal sarcoma.** *Brit. J. Ophth.*, 1927, **11**, 443–445.—Five cases of the disease are described in three generations. In every case the affected eye was excised, and all have died from secondary deposits except one. The first case, a woman, was operated upon in 1871 at the age of 38 years. Two of her daughters were affected at the ages of 19 and 38, respectively. Two daughters of the latter case in turn were operated upon at the ages of 19 and 29, respectively.—*F. Fearing* (Northwestern).

918. **De Lapouge, G. Contribution to the fundamentals of a policy of population.** *Eug. Rev.*, 1927, **19**, 192–197.—The world population is approaching a maximum, the density is badly distributed, and birth limitation is the only means whereby the balance may be peaceably restored. A reproduction policy should have as its aim a "constant increase in the value of individuals."—*B. S. Burks* (Stanford).

919. **De Lapouge, G. The numerous families of former times.** *Eug. Rev.*, 1927, **19**, 198–202.—Gives data to show that while French families of the eighteenth century had large numbers of children, the mortality rate was so high that few more offspring survived to adulthood than do in the restricted families of today. The genealogy of one representative family is given in detail.—*B. S. Burks* (Stanford).

920. **Duggan, J. N., & Nanavati, B. P. A family with blue sclerotics.** *Brit. J. Ophth.*, 1927, **11**, 445–447.—A family in which there appear fifteen cases of blue sclerotics is described. Of the affected cases five are males and ten are females. The abnormality appears to be transmitted through the affected females.—*F. Fearing* (Northwestern).

921. **Duggan, J. N., & Nanavati, B. P. A family with aniridia.** *Brit. J. Ophth.*, 1927, **11**, 447–449.—Four cases are described, one male and three females, all siblings. All of these cases had varying degrees of nystagmus with myopia in addition to the aniridia. The family history on the father's side is clear for eye trouble. The mother had nystagmus, poor sight and probably aniridia.—*F. Fearing* (Northwestern).

922. **Goodrich, E. S. Darwinian interpretations.** *Eug. Rev.*, 1927, **19**, 114–115.—A paper by Hinton (see Abstract 925) in the same number of the *Review* in support of Neo-Lamarckism is criticized. The argument is advanced that a Lamarckian interpretation is not necessary to explain the facts of variation and differentiation into species described by Hinton, who, according to the author, "seems to be unaware that the whole theory of the permanent alteration of organisms by the inheritance of so-called acquired characters is now discredited. . . ."—*B. S. Burks* (Stanford).

923. **Gregory, W. K. *Hesperopithecus*, apparently not an ape nor a man.** *Science*, 1927, **66**, 579–581.—*G. J. Rich* (Institute for Juvenile Research).

924. **Guyer, M. F. Being well-born.** (2d ed. rev. and enl.) Indianapolis: Bobbs-Merrill, 1927. Pp. 490. $5.00.—Eleven years have elapsed since the first edition of this book. Some of the new material is more technical than most of

that in the first edition, but the author has tried to maintain the same simplicity of presentation as was found there. It is his hope that the book may still serve as an introduction to eugenics. The first four chapters have been expanded to fourteen. Later in the book are new chapters on immigration and population. Moreover, much new supplementary material has been added. Three types of reversion are described (1) recombination of characters or the factors of characters, (2) removal of superimposed or obscuring factors, (3) arrested development. A discussion of correlation and other statistical methods is inserted in Chapter II. The chapters on *Embryo Formation and Development* and the *Mechanics of Development* are entirely new (53 pages). Chapter VII contains new material on the theory of rejuvenescence. Chapter IX on *Crossing of Individuals Differing in More Than One Trait* is virtually new, though including some of the old material. Chapter XII, another new chapter, is concerned with the linear arrangement of genes, and Chapter XIV on the *Origin of New Characters* is also new. There is new material on the inheritance of cancer, twinning, cousin marriages, modification of the germ cell, particularly by X-ray, and the relative importance of heredity and environment.—*O. M. Heron* (Minnesota).

925. **Hinton, M. A. C. Habit and environment as makers of species.** *Eug. Rev.*, 1927, **19**, 109–113.—The adaptive differentiation of animals into species and subspecies when segregated into various terrestrial areas is attributed to environment and habit by this author, who expresses the belief that acquired characters "in the long run become truly heritable characters." Laboratory evidence, it is claimed, may confirm but can never refute the above theory, since the experimenter is "restricted to one time-plane, the present"; and he "cannot reproduce the natural environment of a terrestrial mammal in his laboratory—for even the simplest of such environments is a compound of infinite subtleties beyond the reach of our analysis." The author also states that " 'mutations' as understood by the Mendelians seem to me to be entirely absent from wild animals."—*B. S. Burks* (Stanford).

926. **James, R. R. A pedigree of a family showing hereditary glaucoma.** *Brit. J. Ophth.*, 1927, **11**, 438–443.—The pedigree contains representatives of three generations, the first and second of which contain the affected cases. There are eight cases of the disease, five females and three males. Of these, five cases appear in one sibship.—*F. Fearing* (Northwestern).

927. **Keith, A. Darwin's theory of man's descent as it stands today.** *Lancet*, 1927, **213**, 485–489.—The presidential address before the British Association for the Advancement of Science. The speaker traces the history of Darwinism from the beginning to the present and comes to the conclusion that the weight of all available evidence points to an affirmative answer to the question "Was Darwin right when he said that man, under the action of biological forces which can be observed and measured, has been raised from a place among anthropoid apes to that which he now occupies?"—*W. T. Heron* (Minnesota).

928. **Lillie, F. R. The gene and the ontogenetic process.** *Science*, 1927, **66**, 361–368.—Physiology of development (embryology) and genetics, despite the strides that have been made by each, do not supplement each other. The genes are always the same in a given individual and are therefore unable to aid in the solution of the essential problem of development.—*G. J. Rich* (Institute for Juvenile Research).

929. **Lotka, A. J. The size of American families in the eighteenth century.** *J. Amer. Statis. Asso.*, 1927, **22**, 154–170.—Upon the basis of the Pearl-Reed law of population growth, together with a consideration of population statistics, it is estimated that at the end of the eighteenth century the average size of family in America was 7.8 children per married woman, or 8.3 children per mother, the latter figure computed on the assumption that 7% of marriages are naturally

sterile. The annual rate of increase at that time was about 3% per annum. The mean length of a generation is about 28 years. Tables and curves are presented showing the relation between the number of children per mother, the birth-rate, and the rate of increase of the population, corresponding to a given age schedule of mortality frequency and of maternity frequency.—*L. Ackerson* (Institute for Juvenile Research).

930. **MacBride, E. W. "Darwinian interpretations."** *Eug. Rev.*, 1927, **19**, 214–216.—The author criticizes the view of Goodrich (see Abstract 922) that "the whole theory of the permanent alteration of organisms by the inheritance of so-called acquired characters has been discredited," cites recent works by Kammerer, Pavlov, McDougall, and Harrison which he believes prove the existence of the inheritance of acquired characteristics, and records his belief in an opinion expressed by Bateson that mutations had nothing to do with evolution.—*B. S. Burks* (Stanford).

931. **Marshall, G. A. K. Selection theory and its alternatives.** *Eug. Rev.*, 1927, **19**, 203–213.—Taking an article by Hinton (see Abstract 925) as a point of departure, the author criticizes the brief for hereditary acquired characteristics advanced by the former, and summarizes evidence in favor of natural selection. Protective coloration as described by Buxton in *Animal Life in Deserts* can be better explained by natural selection. In most desert mammals the soil-like color is most fully developed on the top of the back rather than on the lower surface and flanks where the environmetal effect of the soil might be expected to have the greatest influence. Exception is taken to Buxton's belief that protection afforded by coloration must be absolute if the coloration is actually due to natural selection. Some desert beetles and insects do not have protective coloration, but these are shown to be unpalatable, and consequently their conspicuous colors serve as a warning against molestation. On a Lamarckian hypothesis the greatest uniformity in plant and animal life would be expected under the most uniform environmental conditions, but actually, under the uniform conditions of heat, light and moisture of the equatorial forests, the greatest diversities of species are produced. Among insects which produce neuter individuals, the extraordinary adaptive mechanisms of the neuters cannot be explained by transmission of acquired characteristics, since the neuters are sterile. Criticisms are also brought against Berg's book on *Nomogenesis*, which contains drastic criticisms of natural selection. Marshall answers the following two statements: (1) "Natural selection is a purely negative agent; it weeds out but it does not create; it accounts for the elimination of the unfit, but not for the appearance of the fit." (2) "What the belief in natural selection as an efficient agent really implies is the constant occurrence of small inheritable variations in all directions. This assumption is directly contradicted by every relevant experiment designed to test the point. If the conditions are kept constant selection is powerless to effect progressive change."—*B. S. Burks* (Stanford).

932. **Pearl, R. Differential fertility.** *Quar. Rev. Biol.*, 1927, **2**, 102–118.—"The paper is intended, in part, to show that the eugenic condemnation of whole social or economic classes, either directly or inferentially by the contention that only certain classes such as college graduates are eugenically desirable, is unwarranted by anything now known." The data apply to the number of children born to mothers in 1923 by fathers who are 45 years of age or over, in 24 states of the U. S. Occupational classes are listed as follows: professional service, clerical occupations, trade, domestic and personal service, public service, transportation, manufacturing and mechanical industries, agriculture, forestry and animal husbandry, extraction of minerals. Tables, charts and a list of literature are included.—*H. S. Oberly* (Pennsylvania).

933. **Pearl, R. The indigenous native population of Algeria in 1926.** *Sci-*

ence, 1927, **66**, 593–594.—The results of the 1926 census of Algeria differ by only 0.59% from the expectation under the logistic curve. This agreement makes more valid the case of the native population of Algeria as an example of a human population following the logistic curve in its growth.—*G. J. Rich* (Institute for Juvenile Research).

934. **Pearl, R. The rate of living.** New York: Knopf, 1928. Pp. 185. $3.50.—A summary of much of the author's work since 1920 on the duration of life and related matters. Under optimum conditions, the survivorship curves for normal *Drosophila* are of the same form as in man, while the span for vestigial *Drosophila* is only about one-third as great; this difference in longevity behaves in inheritance like a simple Mendelian character. Density of population has an effect on span of life under these conditions also. But under conditions of complete starvation, the differences due to inheritance and those due to density both disappear. These starvation conditions being taken as giving play to *inherent* vital forces only, and these forces being measured by amount and rate of growth, the conclusions are drawn that (1) these latter variables give concordant results as to the form of the curves, and (2) they correlate with each other — .64, enabling the statement that "the length of life depends inversely on the rate of living."—*R. R. Willoughby* (Clark).

935. **Popenoe, P. Eugenic sterilization in California. I. The insane.** *J. Soc. Hygiene*, 1927, **13**, 257–268.—Since operations for sterilization were authorized in the California state hospitals for the insane, about one patient in twelve has been sterilized. These operations have been performed almost wholly on those whose types of psychosis are, by common consent, most highly dependent on inheritance. While a majority of sterilized patients have been discharged, there are still in the hospitals a large number who have been there for years and who have no prospect of leaving. Many of these were sterilized for therapeutic rather than eugenic reasons.—*G. J. Rich* (Institute for Juvenile Research).

936. **Popenoe, P. Eugenic sterilization in California. IV. Changes in administration.** *J. Soc. Hygiene*, 1927, **13**, 468–477.—There have been wide fluctuations in the amount of sterilization performed in the California state hospitals for the insane from year to year, with a marked increase in recent years. Sterilization of patients with dementia praecox and manic-depressive psychoses has increased at the expense of all other diagnoses.—*G. J. Rich* (Institute for Juvenile Research).

937. **Seip, T. Om arvelighetsforholdene ved psykoser.** (On inheritance of psychoses.) *Tidsskr. f. d. Norske Laegeforen.*, 1927, **47**, 1369–1383.—The writer gives a general critical review of the results of investigations bearing on the problem of inheritance in mental diseases and arrives at the following conclusions: (1) For manic-depressive psychoses, some kind of a dominant way of inheritance is probable. (2) For schizophrenia, recessive inheritance in some form is generally accepted. (3) The genuine epilepsy possibly follows a recessive type. (4) In idiocy and imbecility various types of inheritance are apparent. (5) Myoclonus-epilepsy is recessively inherited. (6) Huntington's chorea shows simple dominating inheritance. The four first conclusions must be taken as tentative, pending more minute and more extensive researches.—*M. L. Reymert* (Wittenberg).

938. **Woods, F. A. Survival of ability.** *Science*, 1927, **66**, 429–430.—Among Harvard graduates of 25 years' standing the percentage of inclusion in *Who's Who in America* rises from the unmarried through those who married with none, one and two children to those who have three children. Similarly, English peers who have contributed to public service have a greater average number of children than do those who have made no such contributions. Within the so-called aristocracy there is taking place a genuine process of survival of the fittest

in which the more ambitious, successful and intellectually eminent are having a larger number of children than their friends and relatives who are less well endowed.—*G. J. Rich* (Institute for Juvenile Research).

[See also abstracts 988, 989.]

SPECIAL MENTAL CONDITIONS

939. **Adams, H. F. The good judge of personality.** *J. Abn. & Soc. Psychol.*, 1927, **22**, 172–181.—Eight groups, with ten girls to a group, were used for the experiment. The analysis of the data revealed the existence of certain differences of a moderate magnitude and of a very consistent sort in the personalities of those who judge others well as compared with those who are good judges of themselves. The self raters are more intelligent, possess to a high degree the more desirable emotional attributes and are much more socially minded. The good judge of others tends toward the egotistic. He is cold blooded towards others and not interested in them. He is the important thing in the universe for himself, and others are regarded by him as tools for his own satisfaction and gratification. The good judge of himself tends to regard society as the end, and himself as the means. The apparent paradox is that the one who is most interested in others understands himself best, and the one who is most interested in himself best understands others.—*C. H. Johnson* (Boston Psychopathic Hospital).

940. **Adler, A. Individual psychology.** *J. Abn. & Soc. Psychol.*, 1927, **22**, 116–122.—The aim of individual psychology is to understand the individual style of life as a part of the whole. The subject involves the understanding of the whole, the life of mankind and the social relation with the other sex. Because everybody is perceiving and judging his own way and answer, and strives to complete and to accomplish his own totality while driven by the lasting gaping blanks between solutions and the full completion of life, a feeling of inferiority is always living and stimulated. Children born with defective organs, or spoiled children, or hated children, are constantly striving for the goal of superiority to overcome the feeling of inferiority. Manifestations of cruelty, evading decisions, even criminal actions, are the result of a desire to attain the superiority feeling. To increase the social feeling and sense of responsibility of these individuals affected by the inferiority feeling, modern psychology and education must treat the causes and not the consequences. Individual psychology recognizes that the problems begin before or in a new situation for which a child or adult is not prepared. Through education, parents may be taught to lessen the family egoism and to put the children in a social environment as soon as possible so that their courage and independence may not be hindered by pampering and continued support. Through this is included usefulness for society, all good characteristics and the right preparation for new situations.—*C. H. Johnson* (Boston Psychopathic Hospital).

941. **Aikins, H. A. Woman and the masculine protest.** *J. Abn. & Soc. Psychol.*, 1927, **22**, 259–272.—The contrast between the potent, aggressive male and the impotent female is so widespread that when anything gives a male a sense of weakness, inadequacy, or incompleteness, he seizes upon the contrast and begins to suspect that he is lacking in virility, a thing so unendurably disgraceful that his whole life becomes one intense, unremitting effort to prove to himself and all the world that this is not so. That is the "masculine protest" and when one is obsessed with it, he soon develops the neurotic constitution—always determined to be the superior male, always tense and overbearing except when he is exhausted, and, of course, always subject to the physical symptoms that such a

purgatorial life involves. When suspicion or accusation of inferiority leads to a protest in women, it is by no means always a masculine protest. An uncomfortable sense of inferiority is very common, indeed, with women. Its victims attribute it to a variety of causes. They care about all kinds of social relations; they want to be like other girls they admire; and their self-respect is not so steeped in thoughts of worthy masculinity that it is marked. The dominant thoughts and impulses of youthful human beings are more social than sexual, and their social ambitions are not all couched in terms of brute force.—*C. H. Johnson* (Boston Psychopathic Hospital).

942. "**Anomaly.**" **The invert.** (Introduction by R. H. Thouless.) London: Balliere, 1927. Pp. xxxii + 160. 5/- net.—An invert is defined as "one who, though apparently physically normal, is entirely unsusceptible to the sexual and emotional attraction of the opposite sex, but is susceptible to the emotional and sexual attraction of his, or her, own sex." The study, which is a first-hand one, is of male inversion only. The author deals with the causes and symptoms of inversion, giving only a very modified approval of Freudian theories and tending to treat inversion as in many cases hereditary. He discusses symptoms and considers partial inversion very briefly. He opposes strongly the view that inverts are invariably depraved, maintaining that there is an almost exact parallel between the psychological and physiological life of the normal man and that of the invert, and that to deduce the character of the invert from those cases which receive police-court publicity is a profound error. He discusses the moral and ethical sides of the problems involved, avowedly approaching them from the point of view of a convinced Roman Catholic. The difficult question of the marriage of inverts is fully dealt with, the author being satisfied that there is no clear way out of the invert's difficulties by this means. A consideration of means of sublimation leads to a study of the sort of advisers who may be of genuine use to the invert.—*F. C. Bartlett* (Cambridge, England).

943. **[Anon.] Sleep.** *Lancet*, 1927, **213**, 343.—A summary of the discussion of sleep at a neurological congress at Paris.—*W. T. Heron* (Minnesota).

944. **[Anon.] Water divining.** *Lancet*, 1927, **213**, 1144.—The summary of a paper by J. W. Gregory which gives an "historical account of the alleged art of water divining with descriptions and summaries of critical tests to which the method has been subjected."—*W. T. Heron* (Minnesota).

945. **Benussi, V. Zur experimentellen Grundlegung hypno-suggestiver Methoden psychischer Analyse.** (The experimental establishment of methods of hypnotic suggestion for psychological analysis.) *Psychol. Forsch.*, 1927, **9**, 197–274.—Hypnotism is used in six different ways in the analysis of mind. It is used for dividing, for fusing, for immobilizing, for attenuating, for sensitizing and for perceptualizing psychic events. For example, it was suggested to hypnotic subjects that the feather-heads of the Müller-Lyer figure moved inward until they became arrow-heads, and the subjects, who were unacquainted with the M–L illusion, reported spontaneously that the middle bar of the figure elongated at the middle. With the use of his *Kinohapt* Benussi aroused apparent tactual movement on the forehead in terms of an hypnotic dream about a diadem which was being rotated on the subject's head. Emotional autonomies, such as the depth and form of the breathing curve in relation to pain, sympathy, etc., are found to be measurably different for the different hypnotically induced emotions. In the higher mental processes an hypnotic control of various degrees of amnesia is possible. A considerable field of precise experimentation is opened for the use of the psychoanalyst.—*W. S. Hulin* (Princeton).

946. **Bjerre, P. The way to grace.** *Psychoanal. Rev.*, 1927, **14**, 255–267.—There is a positive complex or life sphere, made up of earlier impulses and tendencies towards a new and fuller life, which in moments of difficulty, deliver us.

"This invading of our soul by reviving, powerful life out of sources unknown to us, is identical with the process since olden times described as *Grace.*" The author gives a personal experience, and says this series of concepts will suffice for the process: decision, sacrifice, decomposition, analysis, tension, peace.—*W. Dennis* (Clark).

947. **Burrow, T. The group method of analysis.** *Psychoanal. Rev.*, 1927, **14**, 268–280.—The advantages and preliminary findings of analytic conferences of from three to twelve individuals are discussed.—*W. Dennis* (Clark).

948. **Callender, E. M. Insomnia.** *Lancet*, 1927, **213**, 1280–1283.—A statement of some of the various theories of sleep, the length of time a human being can do without sleep, the effects of loss of sleep, the variations in intensity of sleep, and the effect of various interferences upon sleep. The author discusses the use of hypnotics in the treatment of insomnia, and cautions that drugs should never be given unless it is plainly evident that they are necessary.—*W. T. Heron* (Minnesota).

949. **Commission linguistique pour l'unification du vocabulaire psychanalytique français.** (Linguistic commission for unification of the French psychoanalytic vocabulary.) *Rev. fr. de psychanal.*, 1927, **1**, 403–408.—Psychoanalytical writings have, in the past, been translated by so many independent workers that there has been a lack of uniformity in the words chosen to represent the original German technical terms. In order to overcome this difficulty by introducing a uniformity of the most important terms, as in the physical and biological sciences, two attempts have been made at standardization. In English there has appeared a Glossary for the use of the translators of psychoanalytical works (International Psychoanalytical Press, 1924); and now the newly organized French Psychoanalytical Society has made a similar attempt for the French language. The following are the terms already considered and adopted (German, followed by the French and English equivalents):

Verdrängung, refoulement, repression.
Unterdrückung, répression, suppression.
Ich, le moi, ego.
Es, le ça, id. (The Latin term "id" was adopted by the English glossary rather than "it," as corresponding by analogy with "ego," which is the accepted rendering of the German "ich" or literally "I." See Freud's *The Ego and the Id*, London, 1927.)
Ueber-ich, le surmoi, super-ego.
Trieb, pulsion, instinct.
Libido, libido, libido.
Libidinös, libidinal, libidinal (to avoid the connotation of the English "libidinous").
Erotisch, érotique, erotic.
Besetzung, investissement, cathexis ("investment" or "charge." See discussion of the translation of the term in Freud's *Group Psychology and the Analysis of the Ego*, London, 1922, p. 48.)
Zwang, compulsion, compulsion.
Zwangsneurose, névrose obsessionnelle (névrose de compulsion), obsessional neurosis.
Narzissmus, narcissisme, narcissism.
Narzistisch, narcissiste (applied to the patient), narcissique (applied to a morbid process), narcissistic.
Verschiebung, déplacement, displacement.
Uebertragung, transfert, transference (in the psychoanalytical sense of displacement of affect, either positive or negative).
Verdichtung, condensation, condensation.
Deckerinnerung, souvenir-écran, screen memory (cover memory).
Hemmung, inhibition, inhibition.
Affekt, affect, affect.

—*I. H. Coriat* (Boston).

950. **Doe-Kulmann, L., & Stone, C. P. Notes on the mental development of children exhibiting the somatic signs of puberty praecox.** *J. Abn. & Soc. Psychol.*, 1927, **22**, 291–324.—From the data of 62 cases of puberty praecox containing remarks on mental development several deductions seemed legitimate. The rate of mental development tends to be normal or subnormal; it is seldom really accelerated. Specific trends of mental development are not closely correlated with specific types of pathological development or functioning of the endocrine glands underlying the disorder. Such physical traits as height, weight, muscular development, strength, ossification of bones, closure of epi-

physeal junctures, and dentition may greatly surpass the norms for children of similar ages and, quite frequently, they surpass the extreme ranges for American school children of their respective ages. Precocious development of the external genitals and the secondary sexual characters is usually found, although exceptions to the rule have been described. The extent of precocious development in various elements of the sexual organs or the secondary sexual characters is variable from individual to individual. Puberty praecox is considered an acquired disorder arising on a basis of pathological development or pathological functioning of the glands of internal secretion. There is no evidence pointing to a distinctly hereditary basis.—*C. H. Johnson* (Boston Psychopathic Hospital).

951. **Dwelschauvers, G. Freud et la psychanalyse.** (Freud and psychoanalysis.) *Rev. de Phil.*, 1927, **34**, 7–23; 153–167.—Freudian psychoanalysis is severely criticized as being inconsistent and quite unscientific. Pansexualism is modified by such principles as Rivers' herd instinct theory. The purported Unconscious would need to be a mysterious sort of force, since it could not always depend upon a background of experience such as Poincaré describes in the case of the unconscious cerebration of a trained mathematician.—*W. S. Hulin* (Princeton).

952. **Earp, J. R. The smoking habit and mental efficiency.** *Lancet*, 1927, **213**, 527.—There is an association between low scholarship and the smoking habit, but the author believes that his results weaken the case against tobacco as a cause of mental inefficiency.—*W. T. Heron* (Minnesota).

953. **Freud, S. Delusion and dream.** (Trans. by H. M. Downey; introduction by G. S. Hall.) New York: New Republic, 1927. $1.00.—Reprint.—*R. R. Willoughby* (Clark).

954. **Freud, S. Totem and taboo.** (Trans. by A. A. Brill.) New York: New Republic, 1927. $1.00.—Reprint.—*R. R. Willoughby* (Clark).

955. **Freud, S. Une névrose démoniaque au XVII^e siècle.** (A neurosis of demoniacal possession in the seventeenth century.) *Rev. fr. de psychanal.*, 1927, **1**, 337–369.—A translation into French by Mme. Edouard Marty of a paper which first appeared in *Imago*, 1923, **9**. The account of the case, which is in manuscript, was discovered in the Imperial Library and was brought to Freud's attention for a medical opinion. A complete English translation can be found in Freud's *Collected Papers*, Vol. IV., 1925, pp. 436–472.—*I. H. Coriat* (Boston).

956. **Glover, E. Lectures on technique in psycho-analysis.** (Continued.) *Int. J. Psychoanal.*, 1927, **8**, 486–520.—Under the title *Defence-resistance* Glover studies in detail Freud's five groups of resistance due to the id, the ego, to the transference and the anxiety of its birth-like, traumatic dissolution, to the gain through illness, and to the super-ego with its guilt feeling and need for punishment which exploits symptom-formations and forms a barrier to their resolution. Under the title *Counter-transference and resistance* Glover indicates many mechanisms from different levels of the analyst's ego and libido development that may involve a positive or negative counter-transference, and so delay or prevent the successful end of the analysis.—*C. Moxon* (San Francisco).

957. **Hadley, E. E. The origin of the incest taboo.** *Psychoanal. Rev.*, 1927, **14**, 298–316.—The incest wish is a wish for the comfort-pleasure of intra-uterine life; the incest taboo, in addition to social training, is thought to have a psychical basis in the notion of pain attaching to the reversive strivings for re-entry into the protected comfort-situation which is associated with the distortion incident of birth.—*W. Dennis* (Clark).

958. **Heidbreder, E. F. The normal inferiority complex.** *J. Abn. & Soc. Psychol.*, 1927, **22**, 243–258.—The results confirm the concept that abnormal behavior is merely an exaggeration of normal tendencies, as illustrated by the inferiority complex, in the sense that the empirical findings, brought out by a scale

constructed, correspond to theoretical expectations. A statistical analysis of the scale shows that each trait acts in harmony with the scale as a whole in distinguishing between the extremes of the distribution. An analysis on the basis of the different classes of reactions confirms theoretical expectations as to the specific pattern involved. But whether or not the scale is taken as a measure of the inferiority complex, there are several statements which may be made concerning the reaction it measures, whatever its specific nature: it is not something which an individual either possesses or lacks, but which he possesses to a greater or less degree; it is a condition to which women are more liable than men, according to both self and associates' ratings; individuals are more likely to consider themselves characterized by this condition than to be judged so by their associates; individuals who are subject to the condition to a high degree, display a tendency to over-compensation and over-reaction generally.—*C. H. Johnson* (Boston Psychopathic Hospital).

959. **Heron, W. T. The group demonstration of illusory warmth as illustrative of the phenomenon of suggestion.** *J. Abn. & Soc. Psychol.*, 1927, **22**, 341–344.—A modified and amplified Seashore warmth apparatus was used. Suggestibility was increased by use of prestige of instructor, ignorance of electricity and social pressure. It was found that in the majority of cases, suggestibility in a group was very marked. Women were shown to be consistently more suggestible than men.—*C. H. Johnson* (Boston Psychopathic Hospital).

960. **Ivanov-Smolensky, A. G. Neurotic behavior and the teaching of conditioned reflexes.** *Amer. J. Psychiat.*, 1927, **7**, 483–488.—Intensive hindrances in the bio-social surroundings to activity by the lower parts of the nervous system cause in the cortex a conflict of the stimulative and inhibitive processes (cerebro-conflict) which produces an abrupt disturbance of the intercranial balance and a widespread irradiation of the stimulation or inhibition. Neurotic conduct is the expression of disturbed equilibrium between the two processes; either cerebral stimulation or inhibition predominates. The "dislodged complex" corresponds to the originating in the cortex of an inhibitive place which is the result of an unsuccessful bio-adaptation. The cause of a neurosis is the weakness of the reflex-producing, i.e., balancing capability which keeps the equilibrium of the individual and the external world by means of cortical excitation and inhibition. The treatment of neurosis must tend not only to remove the cortical inhibition spots (dislodged complexes) but also to train the reflexogenous and balancing function of the cortex of the cerebral hemispheres.—*B. Kendall* (Boston Psychopathic Hospital).

961. **Jokl, R. H. The mobilizing of the sense of guilt: a contribution to the problem of active therapy.** *Int. J. Psychoanal.*, 1927, **8**, 479–485.—Jokl argues in favor of Ferenczi's "active" method of using commands or prohibitions to mobilize the unconscious sense of guilt, which seems sometimes an insuperable barrier in analysis. By this means it is transmuted into a conscious conscience, which can now be used against the symptoms. This technique has proved its value in cases of perversion, drug addiction, and psycho-sexual infantilism.—*C. Moxon* (San Francisco).

962. **Jones, E. The early development of female sexuality.** *Int. J. Psychoanal.*, 1927, **8**, 459–472.—The concept "castration" should be reserved for the penis alone, and should not be confounded with that of "extinction of sexuality" for which the term "aphanisis" is proposed. The primary fear of aphanisis in the girl appears to be that of separation. The girl's repression of incest wishes results in regression to the pre-Oedipus penis envy. The homosexual outcome of the Oedipus conflict depends on an innately strong oral-sadistic tendency and a subsequent denial of femininity by over-identification with the father. If the oral erotism predominates, the man is avoided as a sexual object, if the sadism

predominates, there is the desire for male attributes and associates and a consequent tendency to resentment and bitterness.—*C. Moxon* (San Francisco).

963. **Laforgue, R. Scotomization in schizophrenia.** *Int. J. Psychoanal.*, 1927, **8**, 473–478.—Unlike repression, scotomization (or the forming of mental blind spots) is defined as a process of psychic depreciation by means of which everything in conflict with the ego is denied. Scotomization implies an incapacity to be weaned, to bear the loss of the original situation, and a consequent narcissistic playing at child and mother within the self. The mother has become an indifferent object in the outside world. In schizophrenia there is a fixation at the insatiable anal-sadistic level, and an incapacity for awareness of stimuli that conflict with the subject. The schizonoiac projects his own hate and inferiority, and feels persecuted and superior.—*C. Moxon* (San Francisco).

964. **Messerschmidt, R. A quantitative investigation of the alleged independent operation of conscious and subconscious processes.** *J. Abn. & Soc. Psychol.*, 1927, **22**, 325–340.—Reasoning from certain experiments conducted by Janet, Prince and Burnett, it has been thought by many that it is possible for a person to carry on two complicated intellectual processes simultaneously, one consciously and the other subconsciously. Janet drew no conclusions from his experimentations which are open to adverse criticism. The technique employed by the other two experimenters, however, lacked scientific controls, and made no provision for a measurement of results on which to base their conclusions. The purpose of this experimental study was to determine whether it is possible for a normal individual to carry on two complicated intellectual processes simultaneously as evidenced by the quantitative results of controlled tests. The most striking conclusion in these experiments was that there is an enormous amount of interference with a conscious process by a subconscious process attempting to operate simultaneously with it. Secondly, it was observed that the interference is much greater when the subconscious process is almost identical with the conscious process than when it is rather different. The keener the competition between a conscious and subconscious process the greater the proportionate loss suffered by the subconscious process. Complex conscious and subconscious processes do not go on independently. The subconscious process slows down the conscious process and very probably the conscious process slows down the subconscious one.—*C. H. Johnson* (Boston Psychopathic Hospital).

965. **McDougall, W. Character and the conduct of life.** London: Methuen, 1927. Pp. xiii + 287. 10/6 net.—The author begins by stressing the fundamental importance to every individual of a thorough knowledge of himself. He must learn to recognize the relative strengths of the emotional tendencies which make up his "disposition," that he may know which to foster and which to control, both in himself and in his children. The "temperament," which is "the resultant of all the chemical influences of the body upon our mental life," can, perhaps, be adjusted only physiologically. And the "temper," which expresses qualities such as intensity, suddenness, persistency, common to all the emotional tendencies, is also inborn, and therefore not susceptible to modification. The "character," however, is acquired only gradually, and is acted upon by external and internal factors throughout life. Chief among the forces determining it is the desire of the self to approximate to some ideal of character, carried into action by the powerful self-regarding sentiment. Desirable moral qualities must be recognized, and the self-respect of ourselves and our children encouraged in order that we may attain them. The setting up of habits is shown to be of little importance, with the exception of certain simple bodily habits that may affect the temperament; and also good principles, since they are intellectually acquired, are inferior in motive power to the sentiments. Suitable tastes and interests should be cultivated. But the temperament, temper, disposition and character are the

most important factors of the personality, since they determine the moral qualities of the conduct. The author then proceeds to apply these general principles to the pursuit of happiness in life and the full development of the personality; the cultivation of desirable qualities, both the purely moral, such as kindness and patience, and also the partially intellectual, such as tact and judgment; and the elimination of common faults. Finally, he draws upon the foregoing argument to provide advice for parents and children, young people, the married and the aged, in their conduct of life.—*M. D. Vernon* (Cambridge, England).

966. **Mühl, A. M. America's greatest suicide problem.** *Psychoanal. Rev.*, 1927, **14**, 317–325.—An analysis of the more than 500 suicides that have occurred in San Diego from 1911 to 1927. 70% were due to despondency and depression over chronic ill health, that is, failure of adjustment. Since San Diego is a very mild, easy place to live, no other explanation for its having the highest suicide rate in the country for fifteen years holds than that it symbolically attracts regressives. "Physicians should be extremely cautious about advising people who are inclined to despondency or depression to go to a place where their regressive tendencies are apt to crystallize in the form of suicidal attempts."—*W. Dennis* (Clark).

967. **Mühl, A. M. Emotional maladjustment during pregnancy with possible relationship to enuresis in the child.** *Psychoanal. Rev.*, 1927, **14**, 326–328.—Of 250 mothers of pre-school children, 36% were emotionally maladjusted during pregnancy. Maladjustments during first pregnancies were due largely to fear of responsibility and dislike for maternity; in subsequent pregnancies, largely to economic factors. Of the 250 children, 32%—between 2½ and 6 years, 20%—were subject to enuresis, a symptom of an emotionally unstable child, and 60% of the mothers of these were emotionally disturbed during pregnancy.—*W. Dennis* (Clark).

968. **Mühl, A. M. Notes on the use of photography in checking up unconscious conflicts.** *Psychoanal. Rev.*, 1927, **14**, 329–331.—Untouched snapshots that are not good likenesses are often valuable symptom-indicators, especially over a period of years. A case is given.—*W. Dennis* (Clark).

969. **Oberndorf, C. P. History of the psychoanalytic movement in America.** *Psychoanal. Rev.*, 1927, **14**, 281–297.—A history as indicated, including European origins and influences, and a statement of present conditions and trends.—*W. Dennis* (Clark).

970. **Pfister, O. El sentido de la libertad a la luz del psicoanalisis.** (The sense of liberty in the light of psychoanalysis.) *Nueva Era*, 1927, **8**, 134.—Concise presentation of the theory that many children are unable to work according to their convictions and conscience due to a split personality in which, in degrees varying from slight to violent, the original conscious impulses are checked or perverted by unconscious counter-desires. By exposing the true basis of such inhibitions the gap between the conscious and the unconscious is closed, giving true liberty in the sense of a subordination of all the forces of the soul under the moral and religious ideal.—*K. Stilwell* (Columbia).

971. **Sorokhtin, G. N. [On the genesis of sexuality, and its regulating mechanism.]** *Voprosy izucheniya i vospitaniya lichnosti* (Problems in the study and education of personality), 1927, No. 1–2, 64–84.—The sexual dominant (the physiological mechanism of which is analyzed in detail by the author) can be aroused by the following stimuli: (1) endogenous stimuli (hormones) which act, through the blood, directly upon the centers concerned; (2) mechanical and excretory stimuli, acting as primary stimuli of the reflex arc of the sexual centers; (3) associative-reflex stimuli (so-called "psychic stimuli") which arouse this dominant. Early development and activity of the sexual dominant should be regarded as an injurious factor, because it hinders the upbuilding and the func-

tional development of the higher activities. Such premature development can be checked by various prophylactic measures; as (1) avoidance of all mechanical stimuli which might excite the erogenous zones and thus arouse the sexual dominant; (2) avoidance of narcotic and alcoholic intoxication, highly spiced foods, and various associative-reflex stimuli of the sexual dominant; (3) subordination of sexual instincts to higher dominants (sublimation).—*A. L. Shnirman* (Leningrad).

972. **Syz, H. C. On a social approach to neurotic conditions.** *J. Nerv. & Ment. Dis.*, 1927, **66**, 601–615.—The traditional methods of investigating neurotic conditions have been concerned with the conflict or dissociation between the elements of an individual's personality. In fact, the core of the mental disturbance has been localized within the person suffering maladjustment. Burrow, however, has recently adopted a different point of view, emphasizing the need of viewing the individual disorder in its larger social setting. An investigation of the social background has thus become an indispensable part of the program, inasmuch as all individual reactions are conditioned by environmental circumstances. This initial step in the development of a more inclusive position has its analogy in the medical sciences, where the individual as a whole—with his environmental setting—is considered. Likewise, the concept of integration has played a prominent rôle in the field of biology. Burrow has thus not only emphasized this interaction of individual and environment, but has shown that the individual is a "contributor as well as a resultant." He also claims that the attitude of the observer is conditioned by the presence of the patient. Thus, in an investigation of human material, normal or pathological, two points must be considered: (1) Social prejudices, discrepancies, and self contradictions are present not only in patients but in observers as well. The observer's instruments of examination, reasoning powers, and emotional attitude are modified and biased by the social system. (2) The socially dependent nature of the symptom needs recognition. Burrow recommends the group method of investigation to eliminate gradually the partiality and restriction of judgment that results from the association of only two people. "The group technic must be an analytic approach."—*P. A. Pooler* (Boston Psychopathic Hospital).

[See also abstracts 862, 863, 996, 999, 1000, 1016, 1057, 1059.]

NERVOUS AND MENTAL DISORDERS

973. **[Anon.] Mental disease in the laboratory.** *Lancet*, 1927, **213**, 398–399.—A brief discussion of recent work in the biochemistry of mental disease. The author hopes for the solution of many problems of human personality through the application of biochemical methods.—*W. T. Heron* (Minnesota).

974. **[Anon.] Mental disorder and deficiency.** *Lancet*, 1927, **213**, 677–678.—A statement of some of the problems confronting the English Board of Control in 1926.—*W. T. Heron* (Minnesota).

975. **Crafts, L. M. Epidemic encephalitis. (Encephalo-myelitis.)** Boston: Badger, 1927. Pp. 237. $3.00.—The book is written to clarify and simplify present-day knowledge of epidemic encephalitis. The material is presented with the least possible use of uncommon or obscure nomenclature and is grouped under the following headings: history and definition; symptoms; diagnosis; course; residuals; complications; prognosis; treatment; case reports. Dealing essentially with the clinical side of the diagnosis, the author correlates pathologic changes with diagnostic signs. The case reports are from personal clinical observation elaborated by the use of portraits, photomicrographs and charts. Bibliography.—*T. Acree* (Boston Psychopathic Hospital).

976. **Doll, E. A. Borderline diagnosis.** *Proc. Amer. Asso. Stud. Feeble-mind.*, 1927, **32**, 45–59.—An attempt to differentiate, by means of tests and history data, between the normal and the feeble-minded subjects of a group of 40 borderline, special class boys resulted in a clear differentiation between the lowest ten, who were diagnosed as feeble-minded, and the highest ten, who were diagnosed as normal. The data suggest that in non-pathological cases "feeble-mindedness is more or less of a psychological entity and represents a deviation from the normal in degree rather than in kind."—*M. A. Merrill* (Stanford).

977. **Durea, M. A. The province and scope of mental hygiene.** *J. Abn. & Soc. Psychol.*, 1927, **22**, 182–193.—The study is largely exploratory and conclusions were made with this in mind. On the basis of the work done, the results seemed to justify the following conclusions: In the past fifteen years there has been a shift in the point of view of mental hygiene, calling for a new formulation or reformulation of general principles. The consequence has been the determination of the relative importance of morbid and normal factors in the application of the principles. On the questions raised, about an equal amount of interest is shown by the psychologist and physician groups. No sharp demarcation can be made between those who would limit mental hygiene to the morbid and others who would make it apply to the normal alone; there is a marked opinion that both factors must be considered in mental hygiene. There is considerable variability on the relative importance of morbid and normal factors; more than half of the respondents regard the two aspects as being of equal importance. There is little variation of opinion on how the separate factors should be stressed. As far as the expression of opinion in the present study can be used as a basis for showing the trend of interest in mental hygiene, the results may be said to correlate well with the varied trends of interest manifest in the literature.—*C. H. Johnson* (Boston Psychopathic Hospital).

978. **Hall, A. J. Rate of movement in post-encephalitic parkinsonism.** *Lancet*, 1927, **213**, 1009–1912.—The author measured the rate of arm movement in 73 parkinsonians. There is a definite slowness of movement in an arm which shows no other abnormal signs. The difference in rate of the two arms is not greater than that found in normal persons. The author believes that the "primary seat of diminished rate of movement does not lie in the peripheral motor apparatus and that it is, therefore, probaoly in the central nervous system."—*W. T. Heron* (Minnesota).

979. **Hall, S. B. The blood pressure in psychoneurosis.** *Lancet*, 1927, **213**, 540–543.—This investigation confirms the results of previous investigators in that the blood pressure in neurasthenia and psychasthenia is abnormally low. In a few cases of psychasthenia, however, and in anxiety neurosis the blood pressure may be abnormally and persistently high. The latter condition becomes normal as the mental condition yields to treatment. Six references are cited.—*W. T. Heron* (Minnesota).

980. **Haviland, C. F. Occupational therapy from the viewpoint of the superintendent of a state mental hospital.** *Occup. Therap. & Rehab.*, 1927, 6, 431–438.—Occupational therapy is primarily a form of psychotherapy and is the most valuable single means of treatment available in mental disease. No mental hospital, public or private, is properly organized unless it provides a wide range of occupational therapy activities. The best system involves a graduated scale of occupational activities of varying degrees of complexity, combined with recreation and physical training as integral parts of the program. Work, play and exercise are necessary for the mentally ill as well as the normal. When overwork is ascribed as the cause of mental disorder it is usually to cover up some less respectable cause, inasmuch as under normal conditions work is a preservative of mental health rather than a cause of disease. It provides a feeling of

satisfaction which cannot be otherwise attained and often affords an emotional outlet in place of the undesirable reactions of the mental disease. Functional psychoses are often described as giving flights from the reality with which the individual cannot cope. Occupational therapy, then, provides a direct pathway from fantasy to fact. In addition some cultivation of attention is achieved.—*H. E. Burtt* (Ohio State).

981. **Henschen, S. E. Aphasiesysteme.** (Systems of aphasia.) *Monatsschr. f. Psychiat. u. Neur.*, 1927, **65** (Flechsig-Festschrift), 87–136.—As the chief result of his studies of the forms of aphasia, the well known representative of the strictest school of the "localists" finds that there are small, almost minimal, cell territories in the cortex which in the future may be even still further divisible and which have a specific structure and psychophysical function analogous to that of the sensory areas. This hypothesis is set up as the purest factual theory in contrast to the doctrines of all the other schools: the psychological school (Storch, Freud, who with their denial of a speech center desert their master, Wernicke), the "construction" school (Wernicke, Lichtheim), and the clinical school (Jackson, Head). Moreover, the localization theory which is derived from anatomical facts according to Brodmann, Charcot and Liepmann, may have been obscured through false interpretation and lack of completeness of the data (polemic against Monakow, Pierre Marie, Niessl, von Mayendorf). However, "extremism" with its prophecy of a continually progressive differentiation of Vogt's cortical fields, appears to be the ideal if it only holds itself to the facts. The positive essence of the paper consists in the critical attempt to subsume under the scheme of localization most of the 26 cases upon which Head, in his great work, *Aphasia and Kindred Disorders of Speech*, has based the denial of specific forms of aphasia, in connection with which Head's differentiation of four forms of disturbance was taken into consideration (verbal, syntactical, nominal and semantic). The verbal form is composed essentially of pure Broca cases with lesions in the third frontal convolution; the syntactic form results from temporal lesions but is by no means always to be associated with word deafness. The semantic form, on the other hand, is generally not an aphasia but a disturbance of thought which, according to hitherto existing views on the localization of the intellect, results from occipital and parietal lesions.—*W. Wirth* (Leipzig).

982. **James, G. W. B. The treatment of G. P. I. (paresis, dementia paralytica).** *Lancet*, 1927, **213**, 515–516.—A discussion of the malarial and other methods of treating paresis. The author adds some notes on the social and medico-legal considerations.—*W. T. Heron* (Minnesota).

983. **James, G. W. B. The treatment of G. P. I. (paresis, dementia paralytica).** *Lancet*, 1927, **213**, 566–567.—The author discusses the chronic cases of paresis, i.e., those which do not yield to the treatment as outlined in his previous article. He discusses the diet, sleep, prevention of seizures, and the precautions necessary in the late stages of the disease when the patient is bed-ridden. —*W. T. Heron* (Minnesota).

984. **Kenna, W. M. Occupational therapy and hospital industries.** *Occup. Therap. & Rehab.*, 1927, **6**, 453–461.—Considerable occupational treatment can very profitably take place in the various hospital activities. It should, however, be carefully prescribed, supervised and controlled by the medical staff and should be individualized as far as possible. In assigning occupational therapy cases to hospital industrial work it is better to have a clearing house than to use the so-called "pick-up" method, in which as a vacancy arises personal efforts are made to get someone to fill it. If all requests for patients and assignments are cleared through a central agency much ill feeling may be avoided. Printed forms facilitate the work of such a clearing house. There is no sharp line between occupational therapy and industrial occupation, inasmuch as all forms of work should

really be therapeutic in their intent. After working habits or habits of industry have been developed through the occupational therapy treatment it is logical to change the patient to one of the useful hospital industries. There are presumably cases where the patient has remained in class for too long a time. Provision could be made in many cases for more employment of patients. In the St. Elizabeth Hospital, 40% of the patients are employed throughout the plant.—*H. E. Burtt* (Ohio State).

985. **Lattes, L., & Sacerdote, A. Un caso di sindrome isterica oculare con simulazione di emorragia (accertata mediante diagnosi individuale del sangue).** (A case of ocular hysterical syndrome with simulation of hemorrhage (ascertained by individual diagnosis of the blood).) *Arch. di antrop.*, 1927, **48**, 21-45.—The authors describe their study of an exceptional case combining all the ocular symptoms of hysteria and traumatic neurosis with simulation of hemorrhage from the eye.—*R. Schwarz* (George Washington University).

986. **Myerson, A. The psychology of mental disorders.** New York: Macmillan, 1927. Pp. vii + 135. $1.40.—The book is written in popular language for the layman. The author, adopting the organistic viewpoint of mental disorder, discusses the psychoses from that angle. He divides them into two groups, the major and minor mental disorders. Etiology, symptomatology and clinical groups are dealt with. A chapter is devoted to psychoanalysis, and although credit is given Freud for his contribution to human thought, his conclusions are rejected. Heredity and crime in relation to mental disease and feeble-mindedness are considered. His observations are based to a large extent on personal research. While recognizing psychiatry's limitation of scientific knowledge as to causes of the disorders, the author presents a program for mental hygiene. Research into alcoholism, more adequate therapy in syphilis and the infections are still necessary. The social problem is more complicated. Prevention, to be of any value, must begin with the child. Sound physical hygiene, proper habits, a robust coarsening of the sensibilities, a cautious dose of the newer psychology and above all common sense are some of the ingredients in his prescription.—*M. R. Kaufman* (Boston Psychopathic Hospital).

987. **Nabarro, D. A case of juvenile general paralysis.** *Lancet*, 1927, **213**, 692-695.—A detailed description of the medical and behavioristic aspects of a girl 6 years of age afflicted with general paralysis. The girl was given the malarial and other treatments and recovered.—*W. T. Heron* (Minnesota).

988. **Neumann, L. B., & Shnirman, I. V. [The heritage of abnormal children.]** *Voprosy izucheniya i vospitaniya lichnosti* (Problems in the study and education of personality), 1927, No. 1-2, 121-127.—In the Ambulatorium of the Griboyedov Institute for Child Research, 876 children were investigated in regard to taints in their inheritance. It was found that pathological inheritance is an important etiological factor in defective children. Alcoholism holds first place, followed by neuro-psychopathic inheritance, then lues (which has the highest percentage in the realm of profound intellectual affections) and lastly tuberculosis.—*A. L. Shnirman* (Leningrad).

989. **Ordahl, G. Birth rank of Mongolians.** *J. Hered.*, 1927, **18**, 429-431.—Data from the family histories of 159 Mongolian idiots who have been inmates of the Sonoma State Home, California, are tabulated. The parents of the Mongolian idiots, in so far as they were interviewed, appeared to be of normal intelligence. Occupational ratings showed the industrial efficiency and social status of the parents to be at least average. The incidence of feeble-mindedness and insanity in the families through four generations is tabled. Statistics are given upon the median age for talking, walking, teething and death of the Mongolians themselves. It is shown that a disproportionate number of Mongolians occur among the later-born of large families of children as compared with the earlier children of the same parents.—*B. S. Burks* (Stanford).

990. **Pollock, H. M. Development of occupational therapy in New York state hospitals.** *Occup. Therap. & Rehab.*, 1927, **6**, 439–444.—The value of occupational treatment of the insane was realized as early as 1798. Experiments began in New York State shortly prior to 1910. One of these comprised a class of dementia praecox patients in the Rochester State Hospital. In this case efforts at habit training and re-educational work proved rather suggestive. Expansion was rapid until the war and its aftermath, but there was a hiatus until about 1921, when a Director of Occupational Therapy was appointed for the State. The growth of the project may be seen from the fact that in July, 1922, there were 1800 patients receiving occupational treatment in the several state hospitals, while in March, 1927, there was a total of 13,549 such patients, constituting 32% of the total residents, an increase of 653% over 1922.—*H. E. Burtt* (Ohio State).

991. **Popenoe, P. Success on parole after sterilization.** *Proc. Amer. Asso. Stud. Feeblemind.*, 1927, **32**, 86–109.—The influence of sterilization on persons paroled from the California state institution for the feeble-minded has been studied in the case of 182 males and 423 females between the ages of 15 and 25 years. The average I.Q. of the paroled group is 60. Two-thirds of the cases satisfied a reasonable definition of success. Little or no association was found between success on parole and age, intelligence, economic status, family history, or length of time spent in the institution. Those who had not been delinquent before commitment to the institution have a slightly better chance of success on parole. One in 12 of the girls on parole became sexually delinquent; 9 in 12 of these girls had been sexually delinquent before sterilization. Sterilization as practiced in California was not found to foster promiscuity.—*M. A. Merrill* (Stanford).

992. **Rabinovitch, M. Psychologie des sourds-muets.** (The psychology of deaf-mutes.) *Prophyl. ment.*, 1927, **3**, 339–344.—The study of deaf-mutes gives an opportunity for determining to what degree contact with the outside world influences the development of personality in general, and an opportunity for estimating the importance which speech plays in the development of thinking. The deaf-mute does not profit by all the benefits of civilization, but he is protected by the influence of his friends, and he develops freely according to his biological possibilities. The author began by studying, by psychological methods, deaf-mutes in infancy and of school age, the latter particularly in view of their professional orientation. He applied the methods of Hederchée and Rossolimo. He found an unquestionable retardation in their development. The mental images of a normal child of four years did not appear until the age of six with the deaf-mutes. The deaf-mute has not the idea of duration, of flight of time, or of cause and effect. That which develops most easily in him is the power of observation and of sustained attention. He shows a considerable weakness in the fields of will and the affective processes, and a nearly complete absence of initiative, of voluntary activity; he imitates and obeys. Visual memory is not as well developed in deaf-mutes as in normal children, and they do not seem to fix the images by the same processes.—*Math. H. Piéron* (Sorbonne).

993. **Raymond, C. S. Intellectual development in morons beyond the chronological age of sixteen years.** *Proc. Amer. Asso. Stud. Feeblemind.*, 1927, **32**, 243–248.—Stanford-Binet retests of 839 children in the Wrentham and Waverley State Schools for the feeble-minded, who were tested at the age of fourteen or older and had subsequent tests from one to eight years later, indicate that intellectual growth as measured by these tests continues in about 40% of these cases beyond the age of fourteen. The author concludes, on the basis of data presented for cases showing an increase in mental age score after the age of fourteen, that "there is a fairly large percentage of feeble-minded children, especially of

the moron group, who show an increase in intellectual capacity after the age of sixteen years."—*M. A. Merrill* (Stanford).

994. **Robinson, S. H. G., Brain, W. R., & Kay, H. D. The association of low blood cholesterol with the occurrence of fits in epileptics.** *Lancet*, 1927, 213, 325–326.—A preliminary report of a study which endeavors to find some biochemical differences between the normal and epileptic individual. Sixteen references are cited in the bibliography.—*W. T. Heron* (Minnesota).

995. **Salmond, M. Functional paralysis of the legs following labour.** *Lancet*, 1927, **213**, 379.—Description of two cases of opposite emotional types who showed functional disorders in legs after childbirth. In both cases the nervous system was normal save for an increase in knee-jerk. Both cases recovered under treatment.—*W. T. Heron* (Minnesota).

996. **Simpson, R. M. Mental hygiene and tuberculosis.** *Welfare Mag.*, 1927, **18**, 1348–1352.—All patients suffering from tuberculosis are beset with many fears which arise from uncertainty. Mental conflict is an etiological factor in the disease and paves the way for the entrance of the tubercle bacillus. The sickness may be viewed as a defense mechanism which enables the patient to escape from the exacting requirements of society. Mental hygiene is therefore important in both the prevention and the treatment of tuberculosis.—*G. J. Rich* (Institute for Juvenile Research).

997. **Sommer, R. Die Sammlung von Schädeln, sowie von Kopf- und Schädelmessblättern in der Klinik für psychische und nervöse Krankheiten in Giessen.** (The collection of skulls, as well as head and skull measurement records in the clinic for mental and nervous diseases at Giessen.) *Monatsschr. f. Psychiat. u. Neur.*, 1927, **65** (Flechsig-Festschrift), 304.—The nucleus of the collection consists of a bequest of 52 skulls which the anthropologist von Hölder made to the clinic at Giessen some thirty years ago in connection with a correspondence with the author in regard to the morphological abnormalities of skulls. Thus a relatively large number of specimens are available which are most interesting from a pathogenetic point of view, and by means of which the origin of abnormalities in the morphology of the skull can be clearly identified. The collection has since been enlarged particularly by the addition of skulls of animals, and also of preparations and pictures on hydrocephaly in man and animals. Most important of all, this bequest has led in the course of thirty years to the foundation of an extensive collection of skull and head measurements. For this purpose the method described by Conrad Rieger in 1885 in the book *Eine exakte Methode der Craniographie* was employed. By this means not only the horizontal plane but also the sagittal and frontal planes are projected on the measurement record. Thus not only the horizontal measurements (circumference, length and width), but also the height of the sagittal and frontal curves can be read. There is here extensive material which is of significance not only for the genesis of morphological abnormalities, e.g., hydrocephalus and disturbances arising from partial ossification of the sutures and from other causes, but also for the questions of face which are always in the foreground. Moreover, in the collection established by von Hölder the relation of facial skeleton and cephalic skeleton, e.g., the character of the osseous nose, can be particularly well studied. The aim of this brief communication is to call attention to the opportunity offered by this collection for the study of the problems of skull morphology. It is published in the Festschrift for Paul Flechsig because in the course of his life work he devoted much study to the problem of the relation between brain and skull. In regard to the literature, reference is made to the author's book *Familienforschung, Vererbungs- und Rassenlehre*, 3d edition, 1927.—*R. Sommer* (Giessen).

998. **Veith, G. J. Training the idiot and imbecile.** *Proc. Amer. Asso. Stud.*

Feeblemind., 1927, **32**, 148–168.—Special training of 139 idiot and imbecile girls between the ages of 7 and 25 in industrial classes resulted in marked improvement in two-thirds of the cases. Training had no effect upon the I.Q. The median chronological age of the group which improved with training was four years lower than that of the group which showed no improvement. The improved group was distinctly more stable emotionally than the unimproved group.—*M. A. Merrill* (Stanford).

999. **Worster-Drought, C. The treatment of insomnia. I. General considerations.** *Lancet*, 1927, **213**, 720–721.—The author divides the causes of insomnia into two classes: (a) physiogenic causes, and (b) psychogenic causes. He discusses the relation of insomnia to anxiety, neurasthenia, hysteria, hypochondriasis, and the psychoses. He distinguishes three types of insomnia: (1) sleep delayed in onset, (2) sleep normal in onset but interrupted by starts and dreams, (3) sleep normal in onset, but the sleeper awakes in the early morning hours and is unable to sleep again.—*W. T. Heron* (Minnesota).

1000. **Worster-Drought, C. The treatment of insomnia. II. Therapeutic measures.** *Lancet*, 1927, **213**, 767–768.—The underlying cause of the insomnia must be discovered and removed. In the meantime drugs of various kinds may be given. The patient must be made to realize that the effects of loss of sleep are not as dire as most victims of insomnia imagine. Hypnosis in the author's opinion is not very satisfactory as a treatment of insomnia.—*W. T. Heron* (Minnesota).

[See also abstracts 849, 851, 877, 914, 935, 937, 963, 1001, 1027, 1030, 1031, 1040, 1054, 1068, 1073.]

SOCIAL FUNCTIONS OF THE INDIVIDUAL

1001. **Adler, H. M. Biological and pathological aspects of behavior disorders.** *Amer. J. Psychiat.*, 1927, **7**, 507–515.—A healthy organism is able to maintain equilibrium with the environment provided the variations of the environment do not exceed the outside limits of the organism's ability to adjust. The further removed from health is the organism, the lower the threshold at which disequilibrium sets in. The margin of safety provided by nature is such that little evidence of disturbance of behavior is likely to appear in the course of ordinary every-day life; it is only occasionally that an individual becomes conspicuous because of serious transgressions. In certain groups of cases (mental deficiency and insanity), where the pathology is very marked, we expect the threshold of adjustment to be low. It is obvious that where an individual engages in criminal acts with a full realization of the consequences he is incurring, there can be no question of deterring him by fear of punishment. From the medical standpoint the problem resolves itself into one of the early identification of such individuals and their control by force of law before their transgressions have become serious. Admitting all the present inadequacies of psychiatric knowledge, it is true nevertheless that the chief barriers to securing the benefit of such scientific knowledge as we now possess are presented by the inelasticity of the criminal law. The situation is very unfavorable to the psychiatric expert who is brought in to examine a criminal accused of a serious crime; he must confine himself to scientific fact and its evaluation, but under our criminal law this is made almost impossible. We are dealing in the deviate with a person of limited responsibility who is likely to blunder into criminal habits. If we wait for his behavior to become really serious he will have acquired tastes and habits that will make it unlikely that he will subordinate himself to any authority.—*B. Kendall* (Boston Psychopathic Hospital).

1002. **Bartlett, F. C. Temperament and social status.** *J. Nat. Inst. Indus. Psychol.*, 1926–1927, **8**, 401–405.—It appears that of all mental factors, temperamental qualities are the most stable and the most important in the determination of occupational success. The latter fact makes their measurement a matter of importance; but the measurement of temperamental qualities will inevitably be more difficult than the measurement of intelligence, since intelligence is held to vary quantitatively only, whereas temperamental differences are qualitative. Temperamental qualities, too, can be recognized only by their cognitive expression, and this is to a large extent under volitional control. Which temperamental qualities are the most important in the determination of social and occupational success will, of course, depend largely on social environment. But detailed study of different communities, their structure, traditions, functions and sphere of culture, should make it possible to state with fair accuracy the personal factors which make for success in particular groups. The temperamental qualities affecting social status, whatever their nature, seem to be so distributed that in any normal section of a civilized population all degrees of social stratification will soon appear. In any vigorous society there must be considerable variation of individual social status from generation to generation, despite the existence of barriers which tend to make such changes difficult.—*A. R. Knight* (National Institute of Industrial Psychology, London).

1003. **Brokhansky, N. La frequenza e le cause del suicidio in Russia.** (The frequency and causes of suicide in Russia.) *Arch. di anthrop.*, 1927, **47**, 366–377.—A special commission, appointed in 1923 to investigate suicide in Russia, examined 359 cases, of which 208 were women and 151 were men. The findings are as follows: Considering employment, housewives and unemployed predominated among women and clerks and unemployed predominated among men. Considering age, 75% were under 30 years of age, 56.54% being between the ages of 20 and 29. 33.17% of the women and 38.41% of the men were married, while 20.29% of the women and 39.73% of the men were single. The majority belonged to the educated and the intellectual classes. 21% were caused by economic distress. About half of all cases were in a weakened condition due to sickness, disease or alcohol. The majority came from poor stock, including alcoholics, suicides and mentally deranged. The sex motive predominated, 50% of the women and 21% of the men acting therefrom, while the social motive controlled 3% of the women and 16% of the men. 39% of the women and 7% of the men used firearms, while 26% of the women and 73% of the men used poison. One-third of the cases acted while in a state of mental derangement. Of the 220 cases of unsuccessful suicides 42% repented, 32% did not repent, 16% were indifferent, 2.5% were amnesiac, and 5% irritable.—*R. Schwarz* (George Washington University).

1004. **Burkitt, M. C. Our early ancestors: an introductory study of prehistoric cultures.** New York: Macmillan, 1927. Pp. 243. $2.50.—Beginning with the most remote times, the author divides the history of mankind into three main divisions and twelve subdivisions. The main concern of the book, however, is with three of these subdivisions, namely, the Mesolithic, Neolithic and Copper Ages. The book is plentifully illustrated and contains large chapter bibliographies.—*J. D. Bryden* (Clark).

1005. **Channing, A. Alcoholism among parents of juvenile delinquents.** *Soc. Service Rev.*, 1927, **1**, 357–383.—Figures obtained from the records of the Judge Baker Foundation show that alcoholism of the parents is associated with juvenile delinquency, although the absence of similar information about non-delinquent children makes it impossible to arrive at definite conclusions concerning the relative importance of this factor. Alcoholism is found to be associated with the disruption of the family home and with the desertion and non-support

of the family by the father. Failure to support the family and alcoholism on the part of the father are closely related to the employment of the mother, which, in turn, usually results in less adequate care and guidance of the children. Even in 1925 alcoholism presented a considerable problem among parents of delinquent children in Boston, but during recent years alcoholism among the fathers has been considerably less than in the years before 1919.—*G. J. Rich* (Institute for Juvenile Research).

1006. **Davies, M., & Hughes, A. G. An investigation into the comparative intelligence and attainments of Jewish and non-Jewish children.** *Brit. J. Psychol.*, 1927, **18**, 134–146.—Children of from 8 to 14 years of age attending three London schools (the Jews being slightly more numerous) were given the Northumberland Standardized Tests, to determine what differences, if any, are observable between Jewish and non-Jewish children in intelligence and in some of the more important subjects of the elementary school curriculum. The Jewish children were found to be definitely superior to the non-Jewish, the superiority being more marked in the case of the boys.—*H. Banister* (Cambridge, England).

1007. **Favre, L. La musique des couleurs et le cinéma.** (The music of colors and the cinema.) *Bull. Instit. gén. psychol.*, **27**, No. 1–3, 77–84.—Light waves can be used scientifically and regulated esthetically so as to establish a music of colors, which is the expressive art of colors and of light in movement. This new art will be likely to live only when the laws are known which regulate expression in general: on one side the things to be expressed, and, on the other, the means made use of to express these things. The music of colors makes use of light (height, timbre, intensity, tonality, light and shade) and movement (quickness, duration, rhythm, direction). The warm colors correspond affectively to feelings of excitement, violence, and joy, while the cool colors correspond to feelings of calm, peacefulness, and sadness. The cinema houses are the most appropriate places for this music of colors. The synchronized association of sounds and colors interprets the same piece of expressive music, with a synchronized showing of a properly adapted film.—*Math. H. Piéron* (Sorbonne).

1008. **Haines, C. M. The effects of defective hearing upon the individual as a member of the social order.** *J. Abn. & Soc. Psychol.*, 1927, **22**, 151–156.—This discussion is limited to the adult who, though unable to hear ordinary conversation, is not totally deaf. The psychological effects upon the person which influence his attitude toward others are: an isolation from much of reality, a childish curiosity to break down the wall of separation, becoming self-centered and often morose, mistaking of other people's actions, distorted vocal expression, and often a feeling of inferiority. The influence which the handicap itself and the person's attitude have upon the attitude of others toward him are: tolerance or impatience, avoidance, loss of close confidences, misunderstandings and often a feeling of superiority. The deafened person may (1) pretend he is not deaf, (2) draw into seclusion, (3) accept conditions and endeavor to live as nearly as possible like a normal member of society. Yet, notwithstanding all hindrances, many deafened individuals are occupying responsible positions; and, while they may not climb as high as their ambitions beckon, yet they are filling a worthy place in the social order.—*C. H. Johnson* (Boston Psychopathic Hospital).

1009. **Hocart, A. M. Are savages custom-bound?** *Man*, 1927, **27**, 220–221.—The popular view that savages are more bound by custom than the white man is entirely wrong. Savages learn customs later, and thus follow them more loosely, but they do not so readily forget how they learned them and will thus often avow the customary origin of a practice when they are questioned more frequently than is the case with the white man.—*F. C. Bartlett* (Cambridge, England).

1010. **Huntington, E. The human habitat.** New York: Van Nostrand, 1927. Pp. 293. $3.00.—An anthropogeography, bringing out again that the history of man is the resultant of geography and psychology. The author stresses the former. Geography does not prescribe or proscribe occupations—psychological factors urge man to adopt them, and geography passively vetoes or permits. In this way natural selection is at work as truly for the highest civilizations as for the animals; and prominent among the characters selected are intelligence, temperament and resourcefulness, which in turn direct their possessors to new experiments which are again vetoed or permitted. The argument is developed in a popular style by means of many typical examples considered in detail.—*R. R. Willoughby* (Clark).

1011. **Hurlock, E. B. The use of group rivalry as an incentive.** *J. Abn. & Soc. Psychol.*, 1927, **22**, 278–290.—The average score made by the rivalry group exceeded that made by the control group on every day of the experiment. There was only a slight difference in gain between boys and girls, the gain being in favor of the girls. Grade comparisons showed that the younger children responded more to the influence of rivalry than the older ones. Rivalry also proved to be a more effective incentive for children of inferior ability than for children rated as average or superior. The members of the section of the rivalry group, who were defeated on the first day when the incentive was used, seemed never to be able to overcome this initial defeat and stood below the other section throughout the entire time. The results taken as a whole point to the conclusion that rivalry is an effective incentive to use with children of the elementary school grades, as a means of inducing them to do better work in connection with their school studies. The interest which this arouses, the outlet for a natural desire to compete with others of equal ages, and the training which it gives in the building up of a coöperative spirit, as opposed to selfish individualism, justify its use.—*C. H. Johnson* (Boston Psychopathic Hospital).

1012. **Kirk, K. E. Conscience and its problems: an introduction to casuistry.** New York: Longmans, 1927. Pp. 402. $6.00.—As the title suggests, the subject is not approached from the psychological point of view, but from that of casuistry. For the writer, St. Thomas Aquinas' definition of conscience serves as a starting point. It is "the mind of man passing moral judgments." Conscience is a function of reason. It employs such words as right and wrong, ought and ought not, vice and virtue, duty and sin. Its conflicts are between duty and desire, pleasure and pain, emotion and reason. That psychological view is opposed which regards conscience as a complex sentiment, based upon an association of primary instincts, which finds its satisfaction in action of a moral character. There are chapters dealing with the nature and history of casuistry in which it is attempted to show how Christianity has sought to arrive at sound principles in dealing with the activity of conscience within society. There is a defence of the exercise of authority by the Church in a chapter on loyalty. Part II of the book deals with specific problems of conscience and covers a wide range of subjects from the refusal of communion, through the Papal claims, to birth control, betting and gambling, and commercial honesty. The book is evidently not intended as a contribution to psychology, and its offerings in that field are, therefore, meager.—*T. Foxall* (Clark).

1013. **Klineberg, O. Racial differences in speed and accuracy.** *J. Abn. & Soc. Psychol.*, 1927, **22**, 273–277.—The investigation was conducted on 120 full-blood, or almost full-blood children on the Yakima Indian reservation, Washington, and 110 white children living in the town of Toppenish, in the heart of the reservation. The use of speed as a test of excellence of performance, with difficulty kept constant, may be entirely unfair to some groups in which the speed factor does not have the significance habitually ascribed to it. The relatively

better showing by the Indians on performance tests suggests that some at least, if not all, of the poor records obtained may be due to language difficulties and educational differences. The expression of quantitative differences between groups in terms of mental age, intelligence quotient, or points on a point scale, may hide interesting qualitative differences which deserve attention.—*C. H. Johnson* (Boston Psychopathic Hospital).

1014. **McAdoo, W. The procession to Tyburn: crime and punishment in the 18th century.** New York: Boni and Liveright, 1927. Pp. 306. $3.00.—A series of 17 records of criminal cases reprinted, with brief notes of introduction, from a work of three volumes published by an anonymous law student in 1804. There is also a general introduction of 27 pages discussing in a very general way the comparison between the conditions revealed in these studies and the problems of modern police, legal, and penal methods.—*R. Leeper* (Clark).

1015. **Mitchell, W. C. Third annual report of the Chairman, Social Science Research Council.** New York: Social Science Research Council, 1927. Pp. 46.—*R. R. Willoughby* (Clark).

1016. **Owings, C. Prevention *versus* salvage.** *J. Soc. Hygiene*, 1927, **13**, 406–413.—"The main preventive task of social hygiene is to create in the individual a sense of calm, frank dignity of sex and a right emotional attitude toward it."—*G. J. Rich* (Institute for Juvenile Research).

1017. **Radin, P. The story of the American Indian.** New York: Boni & Liveright, 1927. Pp. xiv + 371. $5.00.—An account of Indian customs in North and South America. The hypothesis is defended that much of the culture in these areas represents a diffusion from the Mayas and the Incas respectively.—*W. S. Hunter* (Clark).

1018. **Riddle, E. M. Stealing as a form of aggressive behavior. Part II.** *J. Abn. & Soc. Psychol.*, 1927, **22**, 157–169.—When different forms of stealing are arranged according to the aggressiveness involved in their execution, the median chronological age is seen to be higher for each successive group, from that of 13 years 1 month for stealing in the home, to 17 years 8 months for forgery. When the various types of stealing are arranged according to the degree of mental maturity, they follow a serial order according to the amount of planning and forethought required to carry each form of theft into effect. When the several forms of theft are arranged according to the degree of their intelligence quotients, a well-defined grouping is brought out. Children who steal from the home and stores, who take bicycles and automobiles on the streets, who burglarize and commit highway robbery, range from about 72 to 79 I.Q. Those who rob freight cars and slot machines are much lower in intelligence, about 50–60 I.Q., while children who use forgery as their means of theft are of normal intelligence.—*C. H. Johnson* (Boston Psychopathic Hospital).

1019. **Roche-Agussol, M. Tarde et l'économie psychologique.** Paris: Marcel Rivière, 1926. Pp. 93.—This is an essay on Tarde's use of psychological concepts in attempting to explain economic values and the accumulation of wealth. For the author of *Les Lois de l'Imitation*, the essential rôle of the collective life is not utilitarian co-operation or the development of material solidarity, but an ever more ambitious interspiritual conquest. The present work consists of four parts, which deal with the notion of economic fact, the conflict of methods, the theory of value, and the general economic system. There is a discussion of mechanical as opposed to psychological explanations in economic theory, the individual and group minds, personal and collective desires, the influence of invention and sympathy, the logical inadequacy of various judgments of value, the mathematical as compared with the psychological explanation of prices, the factors operating in economic production, and the psychological analysis of different forms of revenue. There is no index, and no table of contents. Practically all of the references given are to French authors.—*H. Cason* (Rochester).

1020. **Saharyanz, E. [Investigation of the emotions of the young delinquent, using Professor Belsky's method.]** *Voprosy izucheniya i vospitaniya lichnosti* (Problems in the study and education of personality), 1926, No. 2–3, 222–230.—The problem of the re-education of a young delinquent can be properly formulated only when his personality is understood. There are no born criminals. A criminal is a product either of social forces or of inherited organic factors. Even a mentally diseased criminal would not have become criminal if he had been scientifically isolated and treated (P. Belsky). In order to understand the personality of the offender, the investigator must know not only the constitutional factors but also the external factors, the stimulating elements of the environment. The chief value of Belsky's method of examination lies in this, that it gives us the opportunity to know the most important aspect of the personality of the young offender, the aspect most difficult to investigate, namely, the emotional. The method makes use of a set of realistic narratives which contain material for evaluation of the relations of the testee to his comrades, school, parents, work, etc. There are also narratives which get into touch with emotional complexes connected with law-breaking. From a set of pictures and a book catalog, the testee is asked to choose a picture or book which pleases him. The results obtained by means of the test material can be supplemented by an intimate conversation with the testee during the examination. Belsky's method is extremely valuable in practical application, because the material is quickly gathered, and it gets into touch with the daily life of the offender. The method is simple and requires no adaptation. In minimum time, by means of Belsky's method, deeply hidden traits of the personality can be discovered; and, starting with these preliminary data, one can formulate a plan for the further education and for the re-education of the offender.—*A. L. Shnirman* (Leningrad).

1021. **Saporito, F. L'apport de la biologie au code pénal qui va être rédigé en Italie.** (The contribution of biology to the penal code about to be drawn up in Italy.) *Arch. di antrop.*, 1927, **47**, 449–452.—A communication to the twelfth congress of legal medicine, held at Lyon on July 4–6, 1927, in which Saporito extols the new Italian penal code for its reforms inspired by the new doctrines of biological and anthropological criminology.—*R. Schwarz* (George Washington University).

1022. **Siegel, C. Die Bilder und Gleichnisse bei Schopenhauer. Zur Psychologie der philosophischen und literarischen Form.** (Figures and similes in Schopenhauer; a contribution to the psychology of philosophical and literary form.) *Zsch. f. angew. psychol.*, 1927, **29**, 41–73.—Figures and similes are classified, and the frequency of their appearance in different parts of his writing is tabulated.—*A. T. Poffenberger* (Columbia).

1023. **Spitzer, M., & Vieillot, M. Le service social de l'enfance en danger moral.** (Social service for children in moral danger.) *Prophyl. ment.*, 1927, **3**, 366–381.—The social service is an institution which has as its task intervention in behalf of those whom circumstances prevent from solving the difficulties of existence. The moral danger for children lies in the lack of proper maintenance and affection. After having closely followed up the young delinquents who passed before the juvenile courts, the authors believe that there are hardly any born criminals, but there are chiefly perverse children who are in need of re-education in a favorable environment. Moral abandon in children manifests itself ordinarily by external signs (insubordination, revolt, delinquency) and by more hidden signs (instability of psychological balance, lack of maturity, lack of judgment). There is also an overflow of sensual and egoistic instincts which education has curbed in normal children. The social service is not a refuge nor a place for education. Particularly, it makes a psychological study of the child, tries to find the reasons for the difficulties of normal life, and endeavors to indi-

cate the practical solutions for readaptation. The statistical tables indicate: (1) the primordial reasons for insubordination or delinquency in 627 children who were studied; (2) the dominant bad factors to be combatted in the families of these children; and (3) the measures taken by the social service for the children who have been followed up to the present.—*Math. H. Piéron* (Sorbonne).

1024. **Stamp, J. On stimulus in the economic life.** New York: Macmillan, 1927. Pp. 68. $1.25.—Stimulus is differentiated from scope, a tethered goat serving as illustration: a lengthening of the rope increases the scope, but not the stimulus. Stimuli are analyzed as single or repeated, constant or diminishing in effect, progressive or reactionary, and stimuli mentioned are classified according to this scheme. Analogies are drawn from agriculture, physiology (drug addiction), mechanics, and psychology; the operation of such stimuli as wage increases, scientific management, hours of work, etc., on output is considered, and the differential psychological effects of incentives of various orders (wage, approval, fame, etc.) are treated.—*R. R. Willoughby* (Clark).

1025. **Street, E. Social hygiene problems which confront you, social workers.** *J. Soc. Hygiene*, 1927, **13**, 394–405.—Matters of sex and social hygiene enter into family maladjustments, so that the social worker must be in a position to face problems of sex and to attempt to inculcate healthy attitudes toward these problems.—*G. J. Rich* (Institute for Juvenile Research).

1026. **Tului, G. Tra i segregati.** (Among the segregated.) *Arch. di antrop.*, 1927, **47**, 155–184.—The author describes the evil effects of solitary confinement upon prisoners and the redeeming influence of kind treatment combined with useful occupation. He pleads, therefore, with the positivist school of criminology of Lombroso and Ferri, for the conversion of penal institutions into reeducational institutions.—*R. Schwarz* (George Washington University).

1027. **White, W. A. The need for coöperation between the legal profession and the psychiatrist in dealing with the crime problem.** *Amer. J. Psychiat.*, 1927, **7**, 493–505.—In order that a scientific approach to problems of crime may be successful the following concrete suggestions are made: (1) the doing away with fixed sentences, at least for certain types of crime, and making the return to freedom conditional upon some change in the individual that gives one a right to suppose that perhaps he will function more effectively as a social unit than he has in the past; (2) the elimination of punishment as a vengeance motive and its retention only if used for definitive constructive ends for conditioning conduct; (3) the gradual transformation of prisons into laboratories for the study and conditioning of human behavior; (4) the abolition in the trial of the hypothetical question; (5) the discarding of the concept of responsibility, which is largely metaphysical; (6) the making of the positions of district attorney and of the judges of criminal courts permanent positions, and requiring for appointment to such positions a knowledge of modern criminology in its various ramifications; (7) the inclusion as part of the educational preparation of such district attorneys and such judges internships in psychiatric clinics and prisons, similar to the internships served by physicians in their various medical specialties.—*B. Kendall* (Boston Psychopathic Hospital).

1028. **Young, D. Some effects of a course in American race problems on the race prejudice of 450 undergraduates of the University of Pennsylvania.** *J. Abn. & Soc. Psychol.*, 1927, **22**, 235–242.—A brief mimeographed questionnaire to determine the students' opinions of the relative inborn ability of different races and nationalities was given at the beginning and at the end of a course in racial sociology. The results showed that men trained in the social sciences academically insist that human beings must be judged on their individual merits and must not be brushed aside as inferior because their skin is dark or their hair kinky, but in their personal relations with members of other races show that

their academic preachings are no more than a lip service to logic.—*C. H. Johnson* (Boston Psychopathic Hospital).

[See also abstracts 865, 914, 939, 946, 954, 959, 966, 972, 997, 1029, 1056, 1075.]

INDUSTRIAL AND PERSONNEL PROBLEMS

1029. **Adie, D. C. Toward the rediscovery of the individual in industry.** *Family*, 1927, **8**, 295–300.—The growth of the industrial organism has put all the emphasis upon production and neglected the individual worker. The efficient administration of labor relationships depends upon the clearness with which we see economic conditions and possibilities on the one hand and human factors on the other. Monotony is probably less important to the worker than theorists believe it to be. The possibility of betterment in industrial relations depends upon the development of plans along lines similar to those of the "case work method." —*G. J. Rich* (Institute for Juvenile Research).

1030. **[Anon.] Telegraphist's cramp.** *Lancet*, 1927, **213**, 510–511.—A summary of a report of the Industrial Fatigue Research Board (see Abstract 156).—*W. T. Heron* (Minnesota).

1031. **Carmer, D. R. Industrial life of the blind in central Europe.** *Occup. Therap. & Rehab.*, 1927, **6**, 463–471.—In Austria the frequency of normal unemployed workmen interferes seriously with efforts to provide for the blind. Their work is largely limited to piano tuning, chair caning, brush making and basket weaving. In Czechoslovakia provision is made for the blind to attend elementary schools until the age of sixteen, and thereafter industrial schools until the age of thirty. They may learn such things as mat weaving and braiding, brush making, basketry, and chair seating. A large shoe concern employs fifty blind persons satisfactorily. In Germany employers are required to give employment to a certain percentage of the war handicapped, including the blind. Factory placement includes the following: document binding, metal, tobacco, food, chemicals, paper and cardboard, brushes, cloth, and dress manufacture. In some factories especially designed machinery enables them to use semi-automatic drilling machines and the like with due safety. Appropriate devices protect the hands and even automatically push the hands away if they come too near. The blind workers are usually seated beside men who are able to see and are working at the same process.—*H. E. Burtt* (Ohio State).

1032. **Creedy, F. Human nature in business.** (With a foreword by J. A. Hobson.) London: Benn, 1927. Pp. 345. 12/6 net.—The author sets out to show that the evils of unemployment, fluctuating demand and high prices, and hence general discontent with the present industrial system, are due to two causes: (1) The prevailing low standard of commercial conduct. The leaders of industry often show lack of public spirit, of readiness to face the problem of unemployment, sharing themselves, if need be, the burden of hard times; and of ability to manage their businesses, or to recognize ability in their subordinates. (2) The secrecy and uncertainty pervading business, which render it impossible for manufacturers to forecast demand, or for banks and other investors to determine which enterprises can be safely and profitably financed. National morale would be improved by (1) a better spirit among business men, which could be inculcated by suitable training while young, and (2) the establishment of (a) an economic survey which should have power to compel commercial bodies and consumers to give the information necessary to provide a general statistical summary of the trend of business, (b) a central economic council, to prepare plans for the conduct of industry in the best interests of society, (c) a development commission to deal with the problems of unemployment and trade oscillation by

opening up new trades and relief works, and (d) a general commercial council to suppress sharp practice and oppression in industry by demanding a boycott on all offending employers.—*M. D. Vernon* (Cambridge, England).

1033. **Earle, F. M. Vocational testing in relation to Professor Spearman's theories.** *J. Nat. Inst. Indus. Psychol.*, 1926–1927, **8**, 414–421.—This article considers whether adherence to current methods of vocational testing is consistent with acceptance of Professor Spearman's views on the nature of ability. On the "two factor" theory all mental activities depend on a general factor *g* and a specific factor. Specific factors are almost entirely uncorrelated; that an individual possesses one special ability does not render it probable that he possesses any other. It follows from this view that performance in a test can be no criterion of performance in a task unless success in both test and task is mainly determined either by *g* or by precisely the same specific factor. If, therefore, tests are to be usefully employed in the selection of workers for industrial tasks where *g* is not of primary importance, the second condition must be fulfilled. But even if its fulfilment were possible, and vocational *selection* were thus vindicated, the need of a separate test for each special ability would enormously complicate the problem of vocational *guidance*. It is suggested, however, that Professor Spearman has not sufficiently considered the possibility of elements common to the members of small groups of special abilities. Such common elements would enable one to infer the presence of any ability from the presence of any other in the same group. That such common elements exist is borne out by experimental work on which the writer has been engaged, and the results of which will soon be published.—*A. R. Knight* (National Institute of Industrial Psychology, London.)

1034. **Farmer, E. The study of personal differences in accident liability.** *J. Nat. Inst. Indus. Psychol.*, 1926–1927, **8**, 432–436.—A summary of previous research is given, leading to the conclusion that individuals differ in liability to sustain accidents, and that this difference is not due wholly to differences in exposure to risk. The object of the experiment described was to determine whether these innate differences in accident-liability correlated with other personal differences which could be measured. The method adopted was to select various industrial groups whose exposure to risk was as far as possible the same, and to compare their performance in a number of tests with the number of accidents sustained over a given period of observation. Three groups of tests were given: (1) Tests of co-ordination of muscular movement with sense-stimulus (dotting test, pursuit meter and choice reaction-time tests). These tests gave a correlation of .25 among themselves. Those subjects whose weighted scores in the three tests were above the average of their group had an accident-rate 48% lower than those whose scores were below the average. (2) Tests connected with temperamental instability (psycho-galvanic reflex test and tests of ocular muscle balance and tremors). Accident-rate correlated significantly both with disturbances of ocular muscle balance, and, in the psycho-galvanic reflex test, with manifestation of more than the average number of changes in conductivity. (3) Tests of intelligence as expressed through a verbal and a mechanical medium. These tests showed no correlation with accident liability. A positive correlation was found to exist both between the frequencies of trivial and of serious accidents, and between the number of accidents and the number of absences through sickness. There is also evidence to show that the industrially inefficient sustain more accidents than others. Further research, of which no definite account is yet available, suggests that accident-liability is determined by a large number of factors, and therefore cannot be accurately measured by any single psychological test. It has still to be discovered whether it will ultimately be possible to devise a group of tests which will take all these factors into account, allowing each its proper weight.—*A. R. Knight* (National Institute of Industrial Psychology, London).

1035. **Fraser, J. A. The value of stoppage analysis with special reference to weaving.** *J. Nat. Inst. Indus. Psychol.*, 1926–1927, **8**, 422–431.—A full explanation of variations in efficiency can be obtained from composite work-curves only when they are supplemented by stoppage analysis. The individual curves of 14 weaving operatives showed striking deviations from the average. These deviations appeared to be due mainly to mechanical breakdowns and to voluntary absences for tea, washing, etc. An analysis is given of the nature, number and duration of all stoppages occurring on four looms over a period of two months. The total loss in productive time was about 24%, nearly one-third of this loss being due to re-shuttling. A single re-shuttling occupied, on the average, 35.4 seconds; but the operation, when performed without delay or interruption from other looms, could be done in 4 seconds. Among the main causes of delayed re-shuttlings were failure to distribute attention over a number of looms, and failure to decide, when a number of stoppages overlapped, which loom should first receive attention. It appears a sound general principle, when two or more looms break down at once, always to deal with the less serious stoppages first. Distributed attention and ability to form quick decisions are qualities which should be given due weight in the selection of weavers.—*A. R. Knight* (National Institute of Industrial Psychology, London).

1036. **Heuyer, —, & Lahy, —. Quelques résultats de l'orientation professionnelle dans une école publique de la ville de Paris.** (Some results from professional orientation in a Paris public school.) *Prophyl. ment.*, 1927, **3**, 267–271.—Information on the orientation of 89 children can be classed under two groups: (1) those who have been directed toward manual professions, and (2) those who, better endowed, have been directed towards professional schools. All have been followed up in their work. In the first category (28 turners, 8 electricians, 29 carpenters, 2 wood carvers, 2 appraisers, 4 draughtsmen, 2 workers in fine optical material) all have given satisfaction, and not one has changed his trade. In the second category the choice has also been satisfactorily followed.—*Math. H. Piéron* (Sorbonne).

1037. **Klemm, O. Die angewandte Psychologie in der Landwirtschaft.** (Applied psychology in agriculture.) (Reprint from the Proceedings of the Leipzig Economics Society, Leipzig, January 4–6, 1927.) Pp. 109–119.—Applied psychology developed earliest in the later appearing industrial life. Industry produces in a span which is artificially shortened. Husbandry depends upon an original, unchanging rhythm. Data are given showing tendencies of school children to select industrial vocations, but the author believes that there is a deep-seated desire to be on the land, which can be directed. The second problem in applying psychology to husbandry is, as in industry, that of adapting the work to the nature of men. Data are given showing how with an experimental machine tests were made for the optimal point of application of the power, and of length of arm of the crank in hand-turned machines. The author mentions for investigation a third field, the characteristics of men and animals which bring some together in favorable ways, the social phase of comparative psychology which seems to affect success in raising and using domestic animals. These three illustrations are used by the author to emphasize the importance of applied psychology in agricultural pursuits.—*C. S. Yoakum* (Michigan).

1038. **Lockhart, L. P. A short manual of industrial hygiene.** London: Murray, 1927. Pp. xlv + 114. 3/6 net.—This book provides a brief practical account of the methods of industrial hygiene for the guidance of managers, foremen and welfare workers in the task of improving the health of the workers. It deals firstly with the requirements of good ventilation, heating and lighting; with cloak-rooms, washing facilities and sanitation; and with canteens. The prevention, treatment and recording of accidents is described; and the problem of

fatigue and its alleviation is outlined. The most important rules of personal hygiene are given, together with advice as to how to avoid the common minor ailments, such as influenza, rheumatism, and the diseases arising from constipation. Finally, the special treatment and instruction of young employees is shown to be of vital importance to industry and to the future of the race.—*M. D. Vernon* (Cambridge, England).

1039. **Wyatt, S. Machine speeds and output.** *J. Nat. Inst. Indus. Psychol.*, 1926–1927, **8**, 406–414.—Machine speeds are not always adjusted to the natural rate of working of the operative; and experiments were carried out into the extent of such maladjustment, and its effects on fatigue and output. In laboratory experiments an apparatus was used which reproduced the essential features of the process of machine feeding. The subjects were required to perform a series of cycles of movement, first in their own time, then at fixed speeds increasing by one per minute from 28 cycles per minute to 36. Output, up to a point, *increased fairly steadily with machine speeds;* then, in the case of two subjects out of three, it showed a sharp decline. From remarks made by the subjects it was clear that the slower speeds led to unpleasant feelings of restriction, that strain and fatigue were felt at the higher speeds, and that the most productive speed was not always the one preferred. Observation of a number of workers feeding a toffee-wrapping machine and study of their work-curve, which was almost horizontal, suggested that a higher rate of working was possible. Machine speeds, accordingly, were increased each week by 3 or 4 units per minute, over a period of six weeks. Two workers were observed throughout this time. Output at a speed of 81 per minute in the fifth week exceeded output at a speed of 68.5 per minute in the first week, in one case by 8 and in the other by 9.5%. In the sixth week, when machine speed was raised to 85.7, the increase in output over the first week was less marked—2.6 for the first worker and 7.1 for the second. The speed of a conveyor machine in another department was raised from 70 per minute (the usual rate) to 74, 78 and 83 per minute. In each case there was an increase in output almost directly proportional to the increase in machine speed, and the work-curve lost nothing in regularity. Two workers were also observed on machines of a slightly different type, running at 57.7 and 51.4 per minute. The output of the first worker increased 3.7% when the speed of the machine was raised to 64.5; that of the second worker increased 4.1% when the speed of the machine was raised to 59.2. With higher speeds the increases were smaller. These facts suggest that many workers are hampered by the inadequate speed of their machines. Ideally, since different operatives do their best work at slightly different rates, machine speeds should be graduated. Such graduation would also be of great value in training, as novices could begin work on the slowest machines and be promoted to faster ones as their efficiency increased.—*A. R. Knight* (National Institute of Industrial Psychology, London).

[See also abstracts 1002, 1079.]

CHILDHOOD AND ADOLESCENCE

1040. **Coirault, M., & Nouca, M. Quelques notes sur le caractère d'arriérés psychiques.** (Some notes on the character of psychologically retarded children.) *Bull. Instit. gén. psychol.*, **27**, No. 1–3, 39–61.—This investigation was made in a finishing class on 88 girls from 8 to 18 years of age, who were for the most part feeble-minded, showing an intelligence retardation of two years if they were less than 9 years of age, and a retardation of 3 years if they were more than 9 years old. This retardation was not due to a lack of instruction. The teacher noted from day to day the indications that she was able to catch in class or dur-

ing recreation periods in the conversations of the children with her or among themselves, and this was done without preconceived ideas. The authors have tried to bring their observations under the classification of Delmas and Boll. In the 88 girls observed there were 44 of paranoid temperament, 43 mythomaniac, 45 cyclothymic, and 16 hyperemotive. These constitutional indications were grouped differently in each child, a fact which gave to these retarded children a diversity which can be diagnosed only with difficulty.—*Math. H. Piéron* (Sorbonne).

1041. **Dernova-Yarmolenko, A. A. [The methodical initiation of children into a new environment.]** *Voprosy izucheniya i vospitaniya lichnosti* (Problems in the study and education of personality), 1926, No. 1, 26–37.—When a child is brought into a new situation, this demands from him a complex adjustment of his reaction in the form of a differentiated inhibition with all its stages of development: (1) a generalized excitation, (2) a generalized inhibition and (3) a differentiation in the proper sense. The central nervous system of the child is not always capable of executing such a task, and it remains sometimes in the first or second stage of development of the process of differentiation, especially if the change from the one to the other set of life conditions is sharp and oft-repeated. The frequent changes are reflected in the conduct of the children, who become excitable or inhibited. When children were methodically initiated into their new relationships by the opportunity school and the primary school division of the children's asylum, at the end of the initiatory period the children performed their habitual duties distinctly faster and more correctly; there was a considerable diminution of destructive activity, and an increase in effective work. The children acquired constructive, enduring relations toward the teachers and their instruction, and this made the teachers' work much lighter in the end.—*A. L. Shnirman* (Leningrad).

1042. **Dokuchayeva, E. [Phenomena connected with the endocrine system in overgrown children.]** *Voprosy izucheniya i vospitaniya lichnosti* (Problems in the study and education of personality), 1926, No. 1, 47–56.—In a survey of the schools for undeveloped children in the Petrograder Rayon of Leningrad, it was found that the children who had been transferred there from the normal schools suffered from a disturbance of the internal secretions in the form of the so-called *formes frustes*. In most of the children there was a diminution of the secretions (50.6%), but there were also children with disturbance of the function of the parathyroid glands and of the hypophysis, and finally some with disturbed equilibrium of the secretions, and in these last it was not known which gland played the chief rôle. Diagnoses were based on the changes in outward habitus and in the functional efficiency of the organs and systems which are influenced by this or that gland. Use was made also, in diagnosis, of the reciprocal correlation of the glands according to the scheme of Bélov. All these disturbances are connected with a reduction of mental activity, and consequently a difficulty in passing the grades of the middle school. Therefore it would be desirable to investigate psychometrically all children who are not making progress, and to have the condition of their endocrine system tested, in order that their capacity for work may be determined, and especially the occupation most suitable for them.—*E. Dokuchayeva* (Leningrad).

1043. **Durea, M. A. Child placement.** *Welfare Mag.*, 1927, **18**, 1182–1186.—Clinical psychology may aid in the placement of children in foster homes by making a thorough study of each child so that he may be put into an environment in which he will develop most efficiently. The study of the child should be accompanied by estimates of the environment and by follow-up subsequent to placement.—*G. J. Rich* (Institute for Juvenile Research).

1044. **Figurin, N. M., & Denisova, M. P. [Short diagnostic outline of the**

development of the child up to one year of age.] *Novoe v refleksologii i fiziologii nervnoi sistemy* (Reflexological and neurophysiological news), 1926, **2**, 282–308.—On the basis of material gathered in the infants' division of the Institute for Brain Investigations, the authors determined the normal ages for the appearance of a number of reactions in healthy children up to the age of 12 months. From verification of these data in 220 normal, healthy infants, examined mostly in the Leningrad clinics, they have prepared a diagnostic outline of the development of the child up to the age of 12 months. A sample of this developmental outline accompanies the paper. Since the authors set before themselves chiefly a practical aim, they have chosen from the material at hand only those reactions which the examiner can elicit from the child at any time (only the last 6 reactions form exceptions to this statement, and they are placed together in a separate group). Thus this outline presents standardized material and is suitable for practical application.—*A. L. Shnirman* (Leningrad).

1045. **Fuchs, H. Die Sprache des Jugendlichen im Tagebuch.** (The language of the adolescent in diaries.) *Zsch. f. angew. psychol.*, 1927, **29**, 74–120.—This work grew out of the study of the Bühlers' theory of language. They found the diary an especially valuable source of material, because both the form of expression and the content are peculiarly free from inhibitions. 52 diaries were available, 11 of which were analyzed (6 written by girls and 5 by boys). A classification of data was based on the elemental language forms of Bühler, namely: *Kundgabe*, interjections or exclamations which indicate immediate experiences of the speaker; *Auslösung*, occurring in imperatives and where speech is directed to a listener, as in cries of command or attention; and *Darstellung*, or simple statement of objective relations. Nine classes were developed by taking into account form and content under each rubric. The results show a growth with age from a pure descriptive orientation in early adolescence through unconscious subjective description and egocentric description to the reflective type. Changes are similar for the two sexes except that the growth comes about two years later in the boys. The type of language for the different periods is sufficiently distinctive to enable an investigator to detect fraudulent diaries purported to come from an individual of a given age. For example, the *Diary of a Young Girl* was found to be fraudulent because at age 10 to 14 it was cast in the reflective mood, which could only appear at a much later age.—*A. T. Poffenberger* (Columbia).

1046. **Lange, M. W., & Luckina, A. M. [Nervous system, Aschner's symptom and behavior of children. Essay toward a reflexological study of biosocial groups of children.]** *Novoe v refleksologii i fiziologii nervnoi sistemy* (Reflexological and neurophysiological news), 1926, **2**, 256–281.—An investigation of the nervous system in children of different groups showed that the condition of the reflex system and the behavior of the child are dependent upon the tonus of the autonomic nervous system. The latter is, in turn, closely dependent upon the glandular system, and forms the so-called "deep personality." During the development of the individual, changes occur in the deep personality under the influence of complex biological and social factors. Classified according to the tonus of the vegetative nervous system (as an indicator of which, Aschner's symptom alone was chosen) all the boys investigated between the ages of 9 and 15 years can be divided into five groups: (1) children with strongly positive Aschner (pulse retardation more than 15 beats per minute); (2) children with weakly positive Aschner (pulse retardation about 9 to 15 per minute); (3) children with weakly positive Aschner (pulse retardation about 3 to 6 per minute); (4) children without eye-heart reflex; (5) children with inverted Aschner (pulse acceleration). Boys who are normal in behavior, and vary little from normal in the reflex system, exhibit a specially strong Aschner's symptom. With decrease

of the positive eye-heart reflex we find increase of the variations from normal, both in the reflex system and in the conduct of the child. Consequently, in the examination of children, one must take into consideration not only the functional derangement of the reflexes, but also the condition of the vegetative nervous system.—*A. L. Shnirman* (Leningrad).

1047. **Liu, N. C. Physical and mental growth.** *Chinese Students Quar.*, 1927, **12**, 13–33.—The measurements of Baldwin, Gates and Terman are summarized in detail under four headings: (1) physical growth, body and brain; (2) physical measurements and correlations; (3) the relation between physical and mental growth; and (4) measurements and education. 9 references are given.—*S. K. Chou* (Stanford).

1048. **Martin, W. B. The child guidance clinic.** *Welfare Mag.*, 1927, 18, 1192–1198.—There are four major things which every child demands and expects to enjoy from infancy to the age of independence: security, recognition, response and the right to experiment with its environment.—*G. J. Rich* (Institute for Juvenile Research).

1049. **Mink, M. S. The child's play interests.** *Welfare Mag.*, 1927, 18, 1139–1146.—Interest in play life can be seen in literature from the earliest ages to the present time. The play life of children can be divided into definite but overlapping periods, with characteristic activities for each period. For the study of the play of every child, it is important to know not only his interests, but also the adjustment of these interests to that of the play life of his group.—*G. J. Rich* (Institute for Juvenile Research).

1050. **Osipova, V. N. [Survey of the activity of the reflexological laboratory for child investigation of the Leningrad Institute for Brain Investigations.]** *Voprosy izucheniya i vospitaniya lichnosti* (Problems in the study and education of personality), 1926, No. 1, 95–99.—The reflexological laboratory for child investigation is one of the divisions of general reflexology under the direct management of V. M. Bekhterev. In it, the association reflexes of children of school age, and of primary-school age, are investigated. Reflexology makes it possible to discover the mechanism of nerve action, and also to estimate the internal stimuli and the internal response reactions. The processes of stimulation and inhibition, the predominance of the one or the other, or an equable alternation of stimulation and inhibition, constitute the characteristic of the behavior. The elements of behavior, the association reflexes, can become the objects of a laboratory method. The results of the studies issuing from the laboratory are tested upon children in their daily life in relation to their environmental milieu. The study of the mechanism of associative reflex action brings us to the study of the morphological and physiological peculiarities of each child; on this account there is in the laboratory a biometric division which investigates the constitution of the children in connection with the internal secretions, the statics and dynamics of the body, and the development at different ages. There is also an equipment for the study of movements. Large numbers of children from various children's asylums are brought to the laboratory for investigation of the association reflexes. There is also a children's clinic, where the parents and the teachers of the children can be investigated, and can receive advice concerning their further education.—*A. L. Shnirman* (Leningrad).

1051. **Pesker, D. I. [Problems and methods of investigation of the constitution.]** *Voprosy izucheniya i vospitaniya lichnosti* (Problems in the study and education of personality), 1926, No. 2–3, 159–166.—The problem of the investigation of the constitution includes the study of the factors of the growth, development and ripening of the organism. The factors of growth include the sex cells as stimuli of growth, and environment as the source of nourishment. The result of the interaction of all the factors is a definite morphological and biological

type of constitution. The study of the constitution of children includes the study of these types in evolution. The morphological type is determined by somatometry and somatology; the biological type by the study of the internal processes of cell change. In the study of the type of growth of the child's organism, great importance is attached to the relation of the members to each other and to the length of the body (expressed in per cent of growth), and also the ratio of lengths to breadths. The ratios between height of head, length of trunk and extremities, and circumference of chest and pelvis, and the relations of these to growth, enable us to discover the various forms of normal and pathological constitution, since the growth of the skeleton is in most cases an accurate index of the growth of the entire organism.—*A. L. Shnirman* (Leningrad).

1052. **Preston, G. H. The clear road.** *Welfare Mag.*, 1927, **18**, 1430–1438.—A technique for child guidance which aims to keep the well child on the right road involves eugenics, pre-natal care, health examinations, educational and recreational programs, special services for the handicapped and widespread parental education.—*G. J. Rich* (Institute for Juvenile Research).

1053. **Rubasheva, V. L. [Results of investigation of normal and defective pupils.]** *Voprosy izucheniya i vospitaniya lichnosti* (Problems in the study and education of personality), 1927, No. 1–2, 128–131.—Sixty normal children of preschool age (4 to 8 years) and a hundred defective children were studied by the question method. It was found that the normal children stand significantly higher than the defectives both as to the content and as to the motivation of their interests. They put into the choice of their wishes an adequate, conscious meaning, whereas the mentally backward children regard everything in a narrow sense and show themselves to be not only utilitarians but auto-utilitarians.—*A. L. Shnirman* (Leningrad).

1054. **Skalskaya-Nasarenko, —. [Research on the application of the associative experiment to normal and defective children of preschool age.]** *Voprosy izucheniya i vospitaniya lichnosti* (Problems in the study and education of personality), 1926, No. 2–3, 198–221.—With regard to the speech reflex in children of pre-school age, the shortest latent period is found in the normal children, the next in the psychopathic, and the longest latent period in the mentally backward children. The length of the latent period is not dependent upon age. Judging by the speed of the reaction, the strongest stimuli are: concrete pictures and actions; slightly abstract ideas, pictures and characters from story books. Children with deranged emotional volition show a lack of uniformity in the reaction. Mentally backward psychopaths give atypical speech reflexes. Psychopaths of the younger ages give the greatest percentage of adequate answers. Adequacy is dependent upon intellectual endowment as compared with that of normal children. Abstract words as stimuli, story-book pictures and characters give the smallest percentage of adequate answers. The associative experiment in the preschool age can scarcely serve the purposes of psychoanalysis. The associative experiment can serve as a diagnostic aid in determining the neuro-psychic activity and the degree of intellectual development. There is need of an investigation of the influence of social conditions upon the type of speech reflex. There is need of a further scientific investigation of the problem in young children.—*Skalskaya-Nasarenko* (Leningrad).

1055. **Sorokhtin, G. N. [The influence of accessory stimuli upon the play process of the child.]** *Voprosy izucheniya i vospitaniya lichnosti* (Problems in the study and education of personality), 1926, No. 1–2, 47–56.—By means of an apparatus (dominantoscope) which he constructed, the author investigated the play process in children of school age. The influence of accessory stimuli (tactile and auditory), acting during the play, varied as follows: In the first group of children there was a slightly inhibited play process. In the second

group there was a steady and unchanged working attitude (thus in this group the play process maintained the character of a dominant process). In the third group there was an inconstant result, the dominance appearing intermittently.—*A. L. Shnirman* (Leningrad).

1056. **Taft, J. The home has lost its halo.** *Survey*, 1927, **59**, 286–287.—A child's home and family may be unwholesome influences in his mental development. The old tabu of the sacredness of family and home should not operate, in the face of modern psychiatric knowledge, to thwart the best interests of a child whose emotional problems may be solved in a foster home or an institution. Every child needs fundamental security and freedom to grow up.—*G. J. Rich* (Institute for Juvenile Research).

1057. **Wolfe, W. G. The nervous child.** *Welfare Mag.*, 1927, **18**, 1287–1296.—Owing to his long period of dependency, a child learns to appreciate and evaluate the world in which he lives long before he is capable of independent existence. He thus finds himself in a race in which he must necessarily realize his inferiority. The feeling of inferiority normally acts as a spur, and is pathological only if projected into adult life beyond the period of natural dependency or if it is artificially exaggerated as a result of inferior organs, of being spoiled and petted, or of being hated. Under these conditions, the child either tries to drop out of the race of life by exhibiting neurotic symptoms or to take unfair advantage by disobeying the rules in delinquent behavior.—*G. J. Rich* (Institute for Juvenile Research).

1058. **Yarmolenko, A. V. [Change of environment as a factor determining an anomaly of behavior (autism in uncontrolled children).]** *Voprosy izucheniya i vospitaniya lichnosti* (Problems in the study and education of personality), 1926, No. 1, 38–46.—The study of the uncontrolled child, who exhibits in intensified form all the characteristics of the contemporary child, reveals the basis of the anomalies of his behavior. The children of today, who have lived through a series of changes of the social environment, exhibit in their behavior a strongly marked autism, i.e., inhibited, irradiated reactions which do not correspond to the nature of the stimulus and are not in harmony with it. The study of the laws of formation of association reflexes has proved the existence of the following stages of differentiated inhibition: (1) a positive generalized response to a number of stimuli bordering upon the associated one; (2) a generalized inhibition of response to all stimuli, including the associated one; (3) a specifically differentiated response to one associated stimulus (see P. N. Ilyinski's *Differentiated Inhibition in Children of the Transition Age*). Uncontrolled children sojourn in an anarchic realm which affords no conditions for the differentiation of social relations in a settled existence. They remain, through repeated changes of their social relations, in many cases, in the stage of generalized inhibitions of response to all stimuli, as if these were defensive reactions in the form of autism.—*A. V. Yarmolenko* (Leningrad).

[See also abstracts 897, 914, 950, 970, 988, 1018, 1023, 1059.]

EDUCATIONAL PSYCHOLOGY

1059. **Adler, A. El valor: su importancia en la educación del niño.** (Courage and its importance in the education of the child.) *Nueva Era*, 1927, **8**, 115–116.—The author stresses the importance of developing the child's courage on the basis of individual psychology and reason. Life can be faced fully as a constructive function only by the child or person with courage, and therefore the ultimate purpose of all educational influences and of the educator, especially in regard to the difficult child, is to find a way of general usefulness and develop confidence in an ability to work harmoniously with society.—*K. Stilwell* (Columbia).

1060. **Bessler, E. Die Gleichförmigkeit der Noten in der Volksschule.** (Uniformity of marking in the public school.) *Arch. f. d. ges. Psychol.*, 1927, **59**, 1–74.—This study was suggested by and furnishes support for Marbe's theory of the uniformity of psychical phenomena. Finkelstein (1913) analyzed a large mass of data on American college students' grades and noted characteristic similarities between the frequency-distributions of grades given by different instructors. The present investigation is of the same type, the data being gathered from four public schools in Würzburg. The mean grade in a given subject was found to be nearly the same, and the frequency-distribution of the same general form, in three of the four schools. The similarity is due partly to uniformity of pupils' work and partly to uniformity of instructors' attitudes. The difference between the fourth school and the three others may be due to special environmental conditions.—*D. McL. Purdy* (California).

1061. **Broom, M. E. A silent reading test in Spanish.** *J. Educ. Res.*, 1927, **16**, 357–364.—A test is described, of which only parts are reproduced, and results are given of a silent reading test in Spanish which should aid the teacher in classifying students and in evaluating work.—*S. W. Fernberger* (Pennsylvania).

1062. **Buckingham, B. R. Upward *versus* downward addition.** *J. Educ. Res.*, 1927, **16**, 315–322.—School children were divided into two groups of equal ability for handling additions. One group were given instruction in addition upward and the other in downward addition, for twenty minutes each day for variable periods. In the final test, it was found that the downward group "averaged practically four more examples correct than did those who were taught to add upward." In six other groups similar results were found for five but in one group the upward adding group did better than the downward. In several groups the differences were not significant either in magnitude or compared with the probable error of the difference. In spite of these facts and although only 244 children were given this work, the author believes that if the final test had been more difficult (it consisted in the adding of four one-place numbers) it is doubtful if the downward addition would have been superior.—*S. W. Fernberger* (Pennsylvania).

1063. **Chen, H. S. A bibliography for students of educational psychology.** *Chinese Students Quar.*, 1927, **12**, 51–67.—A list of 84 references classified under 12 headings.—*S. K. Chou* (Stanford).

1064. **Chu, S. Y. The development and problems of educational psychology.** (*Chinese*) *Educ. Rev.*, 1927, **19**, No. 4. Pp. 11.—Retreating from philosophy, education gains psychological basis through the influence of such persons as Wundt, Hall and James. It was not until the works of Thorndike, Watson and Dearborn were fully established that scientific educational psychology actually took shape. Many theories have been offered for solving the problems involved, as those of Freud, Jung, Adler, Kempf and the *Gestalt* theory. But such issues as stimulus-response, associationism, extreme behaviorism and intelligence testing are still unsolved.—*S. K. Chou* (Stanford).

1065. **de Grosso, J. D. La escuela nueva en acción. Contribución Argentina.** (The new school in action. Argentine contribution.) *Nueva Era*, 1927, **8**, 120–127.—Application of the Dalton Plan to sixth grade work. Detailed plan of the assignments, tasks, problems centering on one general subject (animals) and coördinating work in vocabulary building, reading, geography and natural sciences. Material is presented in detail and aside from its technical value it is interesting for the way in which all the material is related to actual, practical conditions of Argentine life, physical, industrial and intellectual, and would seem to indicate a promising national self-reliance.—*K. Stilwell* (Columbia).

1066. **Dumont, L. L'émotion esthétique chez l'enfant.** (Esthetic emotion in the child.) *Bull. Instit. gén. psychol.*, **27**, No. 1–3, 62–76.—The school ought

not to lay down rigid discipline in art. It ought to accustom the child to a direct observation of things, and not to an unfruitful observation of pictures made by others, which are set up as models, but which have no emotional value for the child. He ought to discover the exterior world for himself, and note down his first impressions in all their native freshness. Let the children people their walls with the phantasmagoria of their fancy and renew from time to time their guileless sketches, and there will thus be created a living picture gallery of a living school where youth grows and blossoms.—*Math. H. Piéron* (Sorbonne).

1067. **Fedorov, I. I. [Psychotechnical investigation of school work.]** *Voprosy izucheniya i vospitaniya lichnosti* (Problems in the study and education of personality), 1926, No. 2–3, 167–174.—In the current school year 1925–1926, in the Leningrad Soviet Party School of National Deficiency, a collective investigation of the pupils was undertaken in an endeavor to bring psychotechnical work into closer touch with the daily needs of the school. The investigation was concerned chiefly with single intellectual functions and with the determination of the level of general intellectual development of the pupils. Incidentally the author tried out some tests which he had devised for discovering any peculiarity in the thinking of the testee (test of the universalization of concepts, critique of the drawing of conclusions). The investigation yielded positive results, both from the standpoint of general method and from that of the practical applicability of psychotechnical work to the solution of a number of important problems of school life.—*I. I. Fedorov* (Leningrad).

1068. **Griboyedov, A. S. [Present-day problems of auxiliary instruction.]** *Voprosy izucheniya i vospitaniya lichnosti* (Problems in the study and education of personality), 1927, No. 1–2, 85–104.—From a thorough study of present conditions in the auxiliary schools and classes in Leningrad, and also of the literature concerning German and American auxiliary schools, the author concludes that the following measures are necessary: (1) issuance of a decree concerning the auxiliary school, which must take into consideration the special therapeutic purpose of this school, the special pedagogy of feeble-minded children, and the psychotherapeutic peculiarities of the method of instruction and education; (2) increase in the length of the school year, and introduction of special vocational training; (3) organization of a primary school; (4) rational organization of the training of a medico-pedagogic personnel (which in the U. S. S. R. is effected in special divisions of pedagogic institutions or corresponding university faculties).—*A. L. Shnirman* (Leningrad).

1069. **Hsiao, S. P. The past, present and future of educational psychology.** *Chinese Students Quar.*, 1927, **12**, 1–12.—Up to the publication of the *Journal of Educational Psychology* in 1910, the development of educational psychology was mainly along the lines of learning as in Germany, testing as in France, and measurements as in England. From 1910 onward, achievements were many. This is shown by the contents of the *Journal*, in which no less than 29 items or problems were represented, most of them practical school problems. No less than 431 studies on reading were reported during the period 1896–1924, of which 352 were done mostly in the last 8 years. Mental testing was introduced to America in 1909. In less than 17 years, 500–600 separate studies appeared. The present development is again shown by the contents in the textbooks. Although learning still occupies the greater part, materials which were hitherto unknown are included. Courses given in the universities reveal the tremendous development even more clearly. About 33 courses are given in Columbia. While much energy and emphasis have been devoted to learning and intelligence testing in the past, character and personality traits and specific study of school subjects will surely receive due attention in the future.—*S. K. Chou* (Stanford).

1070. **Judd, C. H. Psychology of secondary education.** Boston: Ginn,

1927. Pp. 545. $2.20.—The author states that the main purpose of this book is to present an analysis of the mental processes which pupils exhibit in studying the various high school subjects. There is a very comprehensive view of all matters pertaining to secondary school education, beginning with the physical changes that occur at about this age period and including the characteristics of emotional life, together with emotional adjustments and maladjustments, frequent at adolescence. The first four chapters deal with the problems coincident with increasing maturity; eleven of the twenty-three chapters comprising the book deal with the psychology of the various high school subjects—the mathematical sciences, the languages, fine arts, practical arts, natural sciences, social sciences, and physical education. The rest of the book discusses the psychology of teaching, the psychology of learning, the supervision of learning, the psychology of administration; then there follow some brief remarks concerning tests and measures. While the author frequently mentions the need of modifying school procedure in the light of individual differences, yet he stresses throughout the book the importance of social psychology as a basis for educational psychology. Each topic is presented with a background of its historical or evolutional development and points still controversial are presented as such. The book is well organized and frequent center headings make it readable and facilitate easy review by topics.—*A. F. Bronner* (Judge Baker Foundation).

1071. **Koos, L. V. The junior high school.** Boston: Ginn, 1927. Pp. xiv +506. $2.40.—The present volume is a revision and enlargement of the original book of this author by the same title. It is a comprehensive manual giving a statement of the aims and functions, types of organization, program of studies, and methods of teaching of the junior high school. It is a book primarily for the school officer and for students preparing for administrative positions in the junior high school. Of particular interest to the psychologist is a discussion in Chapter II of individual differences as a factor in the junior high school plan, a section in Chapter III on the nature of the child at adolescence, Chapter VIII on the homogeneous grouping of pupils, and a section of Chapter X on directed study.—*P. M. Symonds* (Teachers College).

1072. **Kornhauser, A. W. Test and high-school records as indicators of success in an undergraduate school of business.** *J. Educ. Res.*, 1927, **16**, 342–356.—Work carried on in the University of Chicago. Different high-school systems of marking were made comparable by the formula:

$$\frac{\text{(Student's average)}-\text{(Passing mark of the school)}}{100-\text{(Passing mark of the school)}}$$

The test used included, during different years, the Army Alpha, Otis Self Registering Test of Mental Ability (Higher Examination), Terman Group Test of Mental Ability, American Council on Education Test, and finally the Iowa High School Content Examination. All measures were compared with academic success as measured by college grades. "The correlations with first-year scholarship are, in general, closest for a reading comprehension test; intelligence tests come next; high-school averages last. The coefficients are almost all between .45 and .60. Of the four intelligence tests used, no one appears markedly superior or inferior to the others." "A striking contrast appears between the tests and the high-school averages when correlations with college marks beyond the first year are considered. As a whole, the test correlations decrease rather sharply while the coefficients for high-school marks increase or remain constant."—*S. W. Fernberger* (Pennsylvania).

1073. **Levin, J. A. [Results of the investigation of the Leningrad auxiliary schools and classes in the spring semester, 1926.]** *Voprosy izucheniya i vospitaniya lichnosti* (Problems in the study and education of personality), 1927, No.

1–2, 105–111.—About 670 pupils in the auxiliary schools and classes and more than 700 pupils from normal schools were studied by the questionnaire method, Rossolimo's collective method for endowment, and the tests for school progress in arithmetic and reading, with the following results: Among backward children the boys outnumber the girls, almost two to one. There is a large proportion of orphans (the parents of only 34% of all backward children are living). The average age in Class I of the auxiliary schools is 11.1 years; in Class II it is 12.8; in Class III it is 13.6. The results of the tests of the backward children, even the oldest of them, scarcely attain to the level of the normal child of 9 years. As to proficiency in arithmetic and in reading, the mentally backward children of Class III attain results equal to those of Class II of normal schools.—*A. L. Shnirman* (Leningrad).

1074. **Miller, G. F. An experimental test of intellectual honesty.** *School & Soc.*, 1927, **26**, 852–854.—By comparing the number of students who corrected the error in an examination grade when that error was not in their favor with the number of students who made the correction when they had been rated too high, the author tried to determine the extent of honesty among several college groups. In a rather heterogeneous class of 48 individuals only 7.7% of those whom the author presumed to have been aware of the error in their scores notified the instructor. In a somewhat more mature group of 25 in another university the analogous percentage was 58.3.—*H. L. Koch* (Texas).

1075. **Mumford, W. B. The project method of teaching in a school for natives in Central Africa.** *Forum Educ.*, 1927, **3**, 167–170.—*K. M. Cowdery* (Stanford).

1076. **Ratskaya, M. S. [Partial retardation in reading, writing and arithmetic.]** *Voprosy izucheniya i vospitaniya lichnosti* (Problems in the study and education of personality), 1927, No. 1–2, 112–120.—Of 1798 children examined in the ambulatory clinic of the Griboyedov Institute for Child Research, 216 (177 boys and 39 girls) were found to be partially backward (in reading and arithmetic). Almost half of these children could read only with difficulty; a third of them read only by syllables. As to arithmetic, most of them found their limit at about the number 20. The retardation occurs especially at the age of 11 to 13 years; perhaps puberty or the prepubertal period plays a rôle in this matter.—*A. L. Shnirman* (Leningrad).

1077. **Rezzano, C. G. El uso de los "tests" en la escuela.** (The use of the standardized test in the school.) *Nueva Era*, 1927, **8**, 117–119.—The purpose and value of the standardized test with two examples of its application to first grade arithmetic. Stress is laid on the fundamental principles of constructing tests so as to have only one difficulty in each and of having the test cover only material graded to capacity of the students.—*K. Stilwell* (Columbia).

1078. **Shaffer, L. F. A learning experiment in the social studies.** *J. Educ. Psychol.*, 1927, **18**, 572–591.—Material about the Industrial Revolution was prepared in three different styles of writing: textbook narrative, episodic narrative, and generalization. These accounts were printed on separate sheets, made equivalent as to difficulty of words and length of sentences, and presented in a variety of arrangements to a group of children to be learned. In one arrangement the sheets arranged as a textbook narrative were presented for four times continuously. In another, similar sheets written as a story appeared for four times. Other arrangements were tried in which these three writing styles were presented in a variety of ways. Carefully constructed tests were presented after each reading period. The conclusions were that "under the conditions of the experiment, it makes little difference which type of story or which sequence is read."—*A. M. Jordan* (North Carolina).

1079. **Simmons, E. B. Babes in skyscraper-land.** *Survey*, 1928, **59**, 455–

457.—The work of the Vocational Service for Juniors in the New York Schools is described and illustrative cases are cited.—*G. J. Rich* (Institute for Juvenile Research).

1080. **Wiley, J. A. Practice exercises in supervised study and assimilative reading.** Cedar Falls, Ia.: Author, 1927. Pp. 112. $1.25.—This book is prepared for the guidance of teachers who desire to provide definite training for improving the study habits of their pupils. The practice exercises, while they may be used in connection with any content subject from the fifth grade on up through the twelfth, are intended primarily to be used in connection with those content subjects the study of which involves chiefly the thought-getting process. Complete directions are given in an introductory chapter for using the exercises described in the remaining eleven. The exercises include: rapid thought-getting, concentration on the matter in hand, "visualizing," comprehending of meanings, summarizing, etc., etc.—*L. A. Averill* (Worcester Normal).

1081. **Wiley, J. A. Silent reading and study objectives and principles.** Cedar Falls, Ia.: Author, 1927. Pp. xiii + 308. $2.00.—Intended primarily for teachers and college students, this book comprises a psychological consideration of some sixty-four objectives to be striven for in silent reading and study. Among these aims are included: skill in the handling of the physiological processes, of word and paragraph meanings, skill in getting and reacting to the author's thought, in organizing ideas, in increasing speed, in broadening span, in adjusting rate and intensity to fit the needs of the situation, in recognizing word meanings, in reading with a definite purpose, in discovering central themes, in weighing and supplementing, in making inferences, in summarizing, etc., etc.—*L. A. Averill* (Worcester Normal).

1082. **Young, J. B. How emotional traits predispose to college failure.** *J. Educ. Psychol.*, 1927, **18**, 631–636.—Having discovered that intelligence was not a significant factor in producing failures among college students, the author made an attempt to study their emotional dispositions. Extraverts and introverts failed about equally. On the other hand, the group of intelligent introverts have fewer than one-half of their expected failures. The students who are stable emotionally, and extravert, furnish much more than their share of failures. Almost half of the failures of the class of 1928 fell in this group.—*A. M. Jordan* (North Carolina).

[See also abstracts 856, 868, 869, 1006, 1011, 1036, 1040, 1087, 1094, 1097.]

BIOMETRY AND STATISTICS

1083. **Culler, E. Studies in psychometric theory. XIV. On the probable error of the limen.** *J. Exper. Psychol.*, 1927, **10**, 463–477.—Culler's previous formula, p. e. $= \frac{.84535}{h\sqrt{2N}}$, in which N, the whole number of reports on which the limen is based, had a value that was true only for certain limiting conditions, is now generalized by application of Urban's weights, whereby the denominator becomes $h\sqrt{2\Sigma nPp}$ (n = number of times variable and standard are compared, Pp = the value of the Urban weight for p, times p, the percentage of one kind of response with a given variable). Comparison of actual and theoretical p. e.'s obtained by means of the formula shows, however, a divergence between the two values in the case of data from certain subjects or the same subject on different occasions. In order to correct the theoretical p. e. for such possible divergences between calculated and observed values, it is necessary to compute the Lexian ratio L for each variable stimulus (L = ratio of the standard deviation of the fractionated responses to the binomial standard deviation or normal dispersion).

When the mean of the Lexian ratios for the whole series of variable stimuli = 1 (as is the case when the subject holds to the same criterion of judgment throughout) no correction of the theoretical figure is required. When the mean $L>1$ or <1, a correction, the equation of which is given, is theoretically required; in practice, however, a computation of the mean L is necessary only when it is believed that it is substantially >1.—*F. A. Pattie* (Harvard).

1084. **Cureton, E. E. Note on the computation of the rank difference correlation coefficient.** *J. Educ. Psychol.*, 1927, **18**, 627–630.—A table is computed to facilitate the calculation of the coefficient of correlation by means of the squared differences in rank.—*A. M. Jordan* (North Carolina).

1085. **Thurstone, L. L. Note on the calculation of percentile ranks.** *J. Educ. Psychol.*, 1927, **18**, 617–620.—A method is presented whereby correct percentiles may be computed for any of the frequencies by the use of a calculating machine. This is done by calculating the value of half the cases, which is set on the keyboard of the calculating machine as a multiplier and remains there throughout the rest of the computation. This number is multiplied by the frequencies in order. The method is claimed to be quite accurate and easy.—*A. M. Jordan* (North Carolina).

1086. **Toops, H. A., & Edgerton, H. A. An abac for determining the probable correlation over a larger range knowing it over a shorter one.** *J. Educ. Res.*, 1927, **16**, 382–385.—A device for solving the formula for the problem of predicting correlation over a larger range in graphic form. A sample form is given and a typical example worked out.—*S. W. Fernberger* (Pennsylvania).

1087. **Washburne, C. Measuring consistency.** *J. Educ. Psychol.*, 1927, 18, 612–616.—Correlation technique does not apply to measuring the consistency of pupils, say in capitalizing names of persons in a test, in a composition or as between the test and the composition. Formulas are derived whereby the consistency in the same test and as between tests may be stated quantitatively. Consistency in the same test is computed by subtracting the number attempted from twice the rights and dividing the difference by the number attempted.—*A. M. Jordan* (North Carolina).

MENTAL TESTS

1088. **Bathurst, J. E., & Scheidemann, N. V. College psychology tests.** Washington: Bureau of Public Personnel Administration, 1927. Pp. 12 (mimeographed). $3.00 (postage extra) per package of 25 with accessories; reductions for larger amounts.—A battery of six tests—physiological and neurological, abnormal, animal and child, experimental, systematic, and social and applied—requiring 50 minutes for administration. Nos. 1, 3 and 5 in the order given are of the four-response type, the others true-false. Norms for first-year students (N = 347, time of year unspecified) are: median 67.8, Q_1 57.1, Q_3 77.4. The reliability of the battery is given as .80; no data are available on validity. To the extent to which the elements require definite statements on matters not known, the test appears to measure ability to approximate current opinion as well as psychological knowledge.—*R. R. Willoughby* (Clark).

1089. **Chang, Y. C. Judging intelligence from photographs.** *Chinese J. Psychol.*, 1927, **4**, 12.—61 students of a teachers' college ranked 10 children according to their intelligence as judged from their photographs. The reliability of the estimates is indicated by their average deviation of 2.1 places from the average rank. The same test was given to 5 university instructors of psychology and 4 professional physiognomists, yielding an average deviation of 1.4 and 1.7 places, respectively. The estimates of 7 teachers of the children give an average deviation of 1.0 place, and those of 57 teachers' college students who based their

judgments upon an interview 1.6 places. The inter-correlations of the average ranking by the different groups of judges range from .93 between the university instructors and professional physiognomists to .11 between the two groups of teachers' college students. The results of these group estimates were also compared with the mental test scores and school marks (which correlate to the extent of .73) given a highest correlation of .77 between teachers' estimates and school marks, and a lowest correlation of — .21 between the mental test scores and estimates of the 61 students by means of photographs. The photographs of the 10 children are reproduced.—*E. Shen* (China Institute).

1090. **Chen, H. S. What do intelligence tests measure?** *Chinese Students Quar.*, 1927, **12**, 35–40.—The common criticism on intelligence tests that what is tested is knowledge and not intelligence and that the test functions are subject to practice and improvement is uttered because it is not realized that the test method is but a refined every-day method of judging intelligence. The school-teacher method of judging intelligence is inadequate because it is incomplete, prejudiced, not standardized, and inaccurate. Intelligence is an abstract term. What we measure is behavior. The fundamental assumption in intelligence testing is that the individuals being tested have the same environment and interest for doing the tasks in the test. Therefore great care should be taken in selecting the test materials. What is tested is due to hereditary influence only when the environment and interest of the individuals tested are the same. Intelligence testing is not something that is mysterious, new and perfect. We know its validity and limitations.—*S. K. Chou* (Stanford).

1091. **Chen, H. S. The distribution and organization of human abilities.** *Chinese Students Quar.*, 1927, **12**, 41–49.—For ages it has been a common belief that differences of human abilities are differences in quality, that the different abilities are compensatory, and that abilities are general. But modern tests and experiments have shown that human abilities differ quantitatively, are correlational, and are specific. Numerous statistics and instances are given for support. 16 references are included.—*S. K. Chou* (Stanford).

1092. **Collins, M. British norms for the Pressey Cross-out Test.** *Brit. J. Psychol.*, 1927, **18**, 121–133.—The Pressey Form B Test, modified by substituting 19 English words for a similar number of American words, was given to over 1500 English and Scottish children aged 11 to 15. The tests show variations of affectivity, but the norms are very different from the American norms, and vary with both age and sex. The tests were later given to 100 delinquent boys. The average deviation from the norm is much greater for delinquent than for normal children. This difference appears to indicate that the Pressey Test may have some value as an instrument of diagnosis; but repeat tests with 100 boys and girls after intervals of a week and then again after a year appear to indicate that the tests throw no light on the permanent emotional life of the individual.—*H. Banister* (Cambridge, England).

1093. **Downey, J. E. Observations on the validation of the Group Will-Temperament Test.** *J. Educ. Psychol.*, 1927, **18**, 592–600.—The various tests of the Will-Temperament Test were first correlated with intelligence, the population being composed of high school boys and girls and of normal school women. The *r*'s ranged from .2 or .3 to .54. Speed of movement gave the highest *r* of all. Correlations with grades were then computed. The *r*'s ranged from .23 between speed of movement in writing "United States of America" rapidly, scored by means of the average mm. measure, to .46 with a similar test scored by means of the total mm. measure. The multiple correlation between grades and a combination of this last test and intelligence was .69. The differential values of these tests in the case of delinquent and non-delinquent girls were computed. The non-verbal Will-Temperament Test differentiated to some extent between the de-

linquent and non-delinquent but quite decisively between the normal and the feeble-minded.—*A. M. Jordan* (North Carolina).

1094. **Guiler, W. S. The predictive value of group intelligence tests.** *J. Educ. Res.*, 1927, **16**, 365–374.—Correlation of the college grades of 80 freshmen at Miami University with the results of three widely different group intelligence tests: Toops' Ohio College Association Test, Otis Self Registering Test of Mental Ability and the Terman Group Test of Mental Ability. The results show that the Terman test has a slight advantage over the Otis and Toops tests in predicting scholarship. The Otis has a slightly greater predictive value than the Toops. All three of the tests predict achievement better for the upper and lower quarters than for the two middle quarters.—*S. W. Fernberger* (Pennsylvania).

1095. **Lincoln, E. A. The reliability of the Stanford-Binet scale and the constancy of intelligence quotients.** *J. Educ. Psychol.*, 1927, **18**, 621–626.—Thirty children at the ages of 6 and 7 were tested twice on the same day by means of the Binet-Simon tests of intelligence. The mental age changes ranged from 0 to 6 months with a median of 2.4 months. The change in I.Q. varied from 0 to 8 points, with a median of 3.4 points. In 12 out of 36 tests the performance was absolutely consistent. The changes in the missing parts test were most numerous. In spite of the fact that the correlation between the first and second examinations was .95, in 10% of the cases there was a change of 8 points in I.Q.—*A. M. Jordan* (North Carolina).

1096. **Saunders, J. M., & Putnam, G. P. Brain tests.** London: Putnam, 1927. Pp. 95. 2/6.—Nearly fifty examples of various sorts of mental test are here collected together, and are printed in a convenient form with answers appended at the end of the book. Most of these are well-known to the mental test expert, but there are many ingenious and amusing variations of common forms. A brief popular foreword makes claims for the value of the tests presented.—*F. C. Bartlett* (Cambridge, England).

1097. **Sudweeks, J. Intelligence of the continuation school pupils of Wisconsin.** *J. Educ. Psychol.*, 1927, **18**, 601–611.—8 of the 44 continuation schools in the state of Wisconsin were chosen as a representative group to be tested by the Terman Group Tests of Mental Ability. The I.Q.'s of the 1824 pupils were arranged in tables of distribution both at each age and as totals. 5.1% of the pupils are definitely feeble-minded, while 498, or 27.3%, are as low as borderline deficiency. Only one pupil falls in the very superior class, and 21, or 1.2%, are superior. As a whole there is a clear-cut inferiority of continuation pupils in intelligence as compared with high school pupils as measured by several different tests of intelligence. The pedagogical implications of these findings are stated.—*A. M. Jordan* (North Carolina).

1098. **Wang, S. L. History of the development of mental tests.** (*Chinese*) *Educ. Rev.*, 1927, **19**, 16.—The reasons for the development of mental tests are traced back on the one hand to the practical needs of the different ages, ancient, medieval, renaissance and modern, and on the other to theoretical interests as shown by the development of experimental psychology, study of individual differences, eugenics and anthropometric measurements. A very comprehensive view of the background of the Binet Test is achieved by discussions on the life, work and successes of Binet, the father of the mental test.—*S. K. Chou* (Stanford).

[See also abstracts 914, 993, 1006, 1013, 1033, 1077.]